

Ashley M. Simonsen (Bar No. 275203)
COVINGTON & BURLING LLP
1999 Avenue of the Stars
Los Angeles, California 90067
Telephone: (424) 332-4800
Facsimile: (424) 332-4749
Email: asimonsen@cov.com

*Attorneys for Defendants Meta Platforms, Inc.
f/k/a Facebook, Inc.; Facebook Holdings, LLC;
Facebook Operations, LLC; Meta Payments, Inc.
f/k/a Facebook Payments, Inc.; Meta Platforms
Technologies, LLC f/k/a Facebook Technologies,
LLC; Instagram, LLC; and Siculus LLC f/k/a
Siculus, Inc.*

*[Additional parties and counsel listed on
signature pages]*

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

IN RE: SOCIAL MEDIA ADOLESCENT
ADDICTION/PERSONAL INJURY PRODUCTS
LIABILITY LITIGATION

This Document Relates To:

ALL ACTIONS

MDL No. 3047

Case No.: 4:22-md-03047-YGR

**DEFENDANTS' REPLY IN SUPPORT OF
MOTION TO EXCLUDE GENERAL
CAUSATION TESTIMONY OF
PLAINTIFFS' EXPERTS**

Judge: Hon. Yvonne Gonzalez Rogers
Magistrate Judge: Hon. Peter H. Kang

Date: January 26, 2026
Time: 8:00 AM
Place: Courtroom 1, 4th Floor

TABLE OF CONTENTS

TABLE OF CONTENTS	i
TABLE OF AUTHORITIES	ii
I. INTRODUCTION	1
II. ARGUMENT	1
A. Plaintiffs’ Cross-Cutting Defenses Do Not Save Their Experts’ Improper Opinions.....	1
B. Each of Plaintiffs’ Experts Offering Opinions Against All Defendants Should Be Excluded	5
1. Dr. Christakis [PI/SD].....	5
2. Dr. Cingel [PI/SD]	9
3. Dr. Goldfield [PI/SD].....	12
4. Dr. Lembke [PI/SD].....	16
5. Dr. Mojtabai [PI/SD]	20
6. Dr. Murray [PI/SD]	23
7. Dr. Telzer [PI/SD].....	27
8. Dr. Twenge [PI/SD, AG]	31
9. Dr. Hoover [SD-only]	35
C. Plaintiffs’ Remaining Non-Retained Expert, Mr. Arturo Béjar, Should Not Be Permitted to Offer General Causation Opinions on Meta’s Platforms [PI/SD, AG]	38
D. The State AGs’ Retained Experts Should Be Prevented From Offering General Causation Opinions Against Meta Because None Employs a Reliable Methodology	41
1. Dr. Hale [AG-only]	41
2. Dr. Prinstein [AG-only]	44
3. Dr. Zicherman [AG-only]	48
III. CONCLUSION	50

TABLE OF AUTHORITIES**Page(s)****Cases**

<i>Abdo v. Fitzsimmons</i> , No. 17-CV-00851-TSH, 2020 WL 4051299 (N.D. Cal. July 20, 2020).....	19
<i>Avila v. Ford Motor Co.</i> , 2025 WL 2538722 (N.D. Cal. Aug. 22, 2025)	5
<i>Aya Healthcare Servs., Inc. v. AMN Healthcare, Inc.</i> , 613 F. Supp. 3d 1308 (S.D. Cal. 2020).....	35
<i>In re Benicar (Olmesartan) Products Liability Litigation</i> , 319 F.R.D. 139 (D.N.J. 2017).....	50
<i>Campbell ex rel. Campbell v. Metro. Prop. & Cas. Ins. Co.</i> , 239 F.3d 179 (2d Cir. 2001).....	41
<i>Carnegie Mellon Univ. v. Hoffmann-LaRoche, Inc.</i> , 55 F. Supp. 2d 1024 (N.D. Cal. 1999)	44
<i>Cholakyan v. Mercedes-Benz, USA, LLC</i> , 281 F.R.D. 534 (C.D. Cal. 2012).....	35
<i>City of Huntington v. AmerisourceBergen Drug Corp.</i> , No. CV 3:17-01362, 2021 WL 1320716 (S.D. W.Va. Apr. 8, 2021)	18, 19
<i>Creative Dimensions in Mgmt., Inc. v. Thomas Grp., Inc.</i> , 1999 WL 225890 (E.D. Pa. Apr. 16, 1999)	43
<i>Daubert v. Merrell Dow Pharms., Inc.</i> , 43 F.3d 1311 (9th Cir. 1995)	2, 28, 35, 36
<i>Daubert v. Merrell Dow Pharms., Inc.</i> , 509 U.S. 579 (1993).....	28, 45, 46
<i>Doe v. Grindr Inc.</i> , 128 F.4th 1148 (9th Cir. 2025)	17
<i>Domingo ex rel. Domingo v. T.K.</i> , 289 F.3d 600 (9th Cir. 2002)	3
<i>DSU Med. Corp. v. JMS Co.</i> , 296 F. Supp. 2d 1140 (N.D. Cal. 2003)	14
<i>Elasticsearch Inc. v. Floreagunn GMBH</i> , 2022 WL 126075 (N.D. Cal. Jan. 13, 2022).....	50

1	<i>Elosu v. Middlefork Ranch Inc.</i> ,	
2	26 F.4th 1017 (9th Cir. 2022)	3
3	<i>Engilis v. Monsanto Co.</i> ,	
4	151 F.4th 1040 (9th Cir. 2025)	<i>passim</i>
5	<i>Est. of Bride by and through Bride v. Yolo Techs., Inc.</i> ,	
6	112 F.4th 1168 (9th Cir. 2024)	17
7	<i>Garner v. BNSF Railway Co.</i> ,	
8	98 Cal. App. 5th 660 (2024)	2, 3
9	<i>Gen. Elec. Co. v. Joiner</i> ,	
10	522 U.S. 136 (1997).....	11, 15, 47
11	<i>GPNE Corp. v. Apple, Inc.</i> ,	
12	2014 WL 1494247 (N.D. Cal. Apr. 16, 2014)	3
13	<i>Great-W. Life & Annuity Ins. Co. v. Am. Econ. Ins. Co.</i> ,	
14	2013 WL 5954470 (D. Nev. Nov. 6, 2013)	42
15	<i>Haller v. AstraZeneca Pharms. LP</i> ,	
16	598 F. Supp. 2d 1271 (M.D. Fla. 2009).....	28
17	<i>Hardeman v. Monsanto Co.</i> ,	
18	997 F.3d 941 (9th Cir. 2021)	32, 33
19	<i>Henricksen v. ConocoPhillips Co.</i> ,	
20	605 F. Supp. 2d 1142 (E.D. Wash. 2009)	4
21	<i>In re Hum. Tissue Prods. Liab. Litig.</i> ,	
22	582 F. Supp. 2d 644 (D.N.J. 2008)	43
23	<i>Hyer v. City & County of Honolulu</i> ,	
24	118 F.4th 1044 (9th Cir. 2024)	8
25	<i>In re Incretin-Based Therapies Prod. Liab. Litig.</i> ,	
26	524 F. Supp. 3d 1007 (2021)	26, 30, 33, 42
27	<i>In re Juul Labs</i> ,	
28	2022 WL 1814440 (N.D. Cal. June 2, 2022)	5
	<i>Konrick v. Exxon Mobil Corp.</i> ,	
	2016 WL 439361 (E.D. La. Feb. 4, 2016)	28, 33
	<i>Kumho Tire Co. v. Carmichael</i> ,	
	526 U.S. 137 (1999).....	8, 28, 40
	<i>Lemmon v. Snap, Inc.</i> ,	
	995 F.3d 1085 (9th Cir. 2021)	13

1	<i>McGlinchy v. Shell Chem.</i> ,	
2	845 F.2d 802 (9th Cir. 1988)	27
3	<i>In re Methyl Tertiary Butyl Ether (“MTBE”) Prods. Liab. Litig.</i> ,	
4	175 F. Supp. 2d 593 (S.D.N.Y. 2001).....	5
5	<i>In re Mirena IUS Levonorgestrel-Related Prods. Liab. Litig. (No. II)</i> ,	
6	387 F. Supp. 3d 323 (S.D.N.Y. 2019).....	32, 37
7	<i>Neo4j, Inc. v. PureThink, LLC</i> ,	
8	2023 WL 7093805 (N.D. Cal. Oct. 25, 2023).....	4
9	<i>In re Nexium Esomeprazole</i> ,	
10	662 F. App’x 528 (9th Cir. 2016)	11
11	<i>Ohio State Troopers Ass’n, Inc. v. Point Blank Enters., Inc.</i> ,	
12	2020 WL 1666763 (S.D. Fla. Apr. 3, 2010)	4
13	<i>In re Onglyza & Kombiglyze Prods. Liab. Litig.</i> ,	
14	93 F.4th 339 (6th Cir. 2024)	18
15	<i>Open Text S.A. v. Box, Inc.</i> ,	
16	2015 WL 349197 (N.D. Cal. Jan. 23, 2015)	50
17	<i>Pashman v. Aetna Ins. Co.</i> ,	
18	2014 WL 3571689 (N.D. Cal. July 18, 2014).....	4
19	<i>Perry v. Novartis Pharms. Corp.</i> ,	
20	564 F. Supp. 2d 452 (E.D. Pa. 2008)	45
21	<i>In re Rezulin Prod. Liab. Litig.</i> ,	
22	369 F. Supp. 2d 398 (S.D.N.Y. 2005).....	42
23	<i>In re Roundup Prods. Liab. Litig.</i> ,	
24	737 F. Supp. 3d 893 (N.D. Cal. 2024)	39, 48
25	<i>Rusoff v. Happy Grp., Inc.</i> ,	
26	2024 WL 5339463 (N.D. Cal. Sept. 27, 2024)	43
27	<i>Sanderson v. International Flavors & Fragrances, Inc.</i> ,	
28	950 F. Supp. 981 (C.D. Cal. 1996)	5, 16, 26, 46
	<i>Saunders v. Consumers Energy Co.</i> ,	
	No. 1:19-CV-782, 2022 WL 22883512 (W.D. Mich. Apr. 14, 2022)	19
	<i>Siharath v. Sandoz Pharms. Corp.</i> ,	
	131 F. Supp. 2d 1347 (N.D. Ga. 2001)	7
	<i>State Farm Fire & Cas. Co. v. Elextrolux Home Prods., Inc.</i> ,	
	980 F. Supp. 2d 1031 (N.D. Ind. 2013)	15

1	<i>States v. Chavez,</i>	
2	No. 15-CR-00285-LHK-1, 2021 WL 5882466 (N.D. Cal. Dec. 13, 2021)	41
3	<i>Surgical Instrument Serv. Co., Inc. v. Intuitive Surgical, Inc.,</i>	
4	2024 WL 1975456 (N.D. Cal. Mar. 31, 2024).....	43
5	<i>Tamraz v. Lincoln Elec. Co.,</i>	
6	620 F.3d 665 (6th Cir. 2010)	18
7	<i>In re Toy Asbestos,</i>	
8	2021 WL 1167638 (N.D. Cal. Mar. 26, 2021).....	33
9	<i>United States v. 87.98 Acres of Land More or Less in the Cnty. of Merced,</i>	
10	530 F.3d 899 (9th Cir. 2008)	42
11	<i>United States v. Chang,</i>	
12	207 F.3d 1169 (9th Cir. 2000)	40
13	<i>United States v. Finley,</i>	
14	301 F.3d 1000 (9th Cir. 2002)	40
15	<i>United States v. Pac. Gas & Elec. Co.,</i>	
16	2016 WL 1640462 (N.D. Cal. Apr. 26, 2016)	31
17	<i>Wisk Aero LLC v. Archer Aviation Inc.,</i>	
18	2023 WL 3919469 (N.D. Cal. June 9, 2023).....	33
19	<i>Yeti by Molly, Ltd. v. Deckers Outdoor Corp.,</i>	
20	259 F.3d 1101 (9th Cir. 2001)	19
21	Rules	
22	Fed. R. Civ. P. 26.....	50
23	Fed. R. Civ. P. 37	19
24	Fed. R. Evid. 401	48
25	Fed. R. Evid. 702	<i>passim</i>

I. INTRODUCTION

Plaintiffs' Opposition confirms why their experts' opinions do not pass muster under Rule 702. Defendants' arguments are not "mere disagreement" with Plaintiffs' experts' conclusions. Defendants identify fundamental methodological flaws permeating the experts' opinions, including that they (i) fail to provide any methodology for concluding that the at-issue features of Defendants' platforms (as opposed to protected features or third-party content) are independently capable of causing the alleged harms; (ii) analyze all of Defendants' platforms together despite the different platforms' distinct features and uses; and (iii) base causal conclusions on studies that explicitly disclaim any ability to support causal inferences. This is not just a matter for cross-examination. These core methodological flaws require exclusion.

The Court's gatekeeping role is essential here. It must carefully scrutinize expert testimony, as lay jurors—whom Plaintiffs would leave to sort out the developing and still unproven theory behind Plaintiffs' claims—are poorly positioned to do so. Plaintiffs try to avoid this scrutiny (and their own burden) by relying heavily on Judge Kuhl's non-controlling decision applying a relaxed approach under California state law expert standards, by resorting to generalities about their experts and their credentials, and by ignoring many of their experts' admissions that either refute their opinions or show that they are unreliable under the standards set by Rule 702. Because Plaintiffs have not met their burden of showing that their experts applied the rigor demanded by Rule 702, their opinions should be excluded.

II. ARGUMENT

A. Plaintiffs' Cross-Cutting Defenses Do Not Save Their Experts' Improper Opinions

1. Plaintiff's Reliance on Judge Kuhl's Analysis Under California Law Fails.

Plaintiffs rely extensively on Judge Kuhl's rulings in the JCCP. *See* Pls.' Opp. to Defs.' Mot. to Exclude General Causation Testimony ("Opp.") 1, 4–5, 15–16 (ECF No. 2404). Defendants respectfully disagree with Judge Kuhl's rulings in several respects, but those rulings do not control here for a straightforward reason: the federal rules require a more stringent examination of Plaintiffs' experts than under California law. In performing their "essential" gatekeeping role, federal courts may not admit expert testimony without finding "it more likely than not that an expert has a sufficient basis to support an opinion" and "that [the] expert's conclusions do not go beyond what the expert's basis and methodology may reliably support." *Engilis v. Monsanto Co.*, 151 F.4th 1040, 1049 (9th Cir. 2025). Plaintiffs bear the

1 burden of proving the admissibility of such testimony, and they have failed to meet it. *Id.*

2 Federal courts must also engage in the “complex and daunting task” of determining “whether []
3 experts’ testimony reflects scientific knowledge, whether their findings are derived by the scientific
4 method, and whether their work product amounts to good science.” *Daubert v. Merrell Dow Pharms.,*
5 *Inc.*, 43 F.3d 1311, 1315 (9th Cir. 1995) (cleaned up). Judge Kuhl did not undertake that analysis. On
6 the contrary, Judge Kuhl explicitly noted that California assigns courts a “*limited* role” in assessing expert
7 testimony, Mot. Ex. 2 (*Sargon Order*) 7, dismissed authorities based in part because they applied federal
8 law, *id.* 65, and described her role as “simply to exclude **clearly** invalid and unreliable expert opinion,”
9 *id.* 4 (emphasis added). She also rejected Defendants’ arguments that Plaintiffs’ experts must provide
10 *defendant-specific* opinions, which subsequent California decisions have reaffirmed as a “tort law red
11 line” in light of the “basic premise” that “a defendant’s liability” must “turn[] on whether that defendant’s
12 product, and not another person’s product,” caused harm. Ex. 1 (*Landon R. Order*) at 2–5 (excluding
13 expert on alleged baby food contaminants in multi-defendant case because he failed to undertake
14 “defendant specific exposure” assessments and instead “amalgamat[ed] all six [defendants’] data”); see
15 Mot. Ex. 2 (*Sargon Order*) 1011.). In addition, Judge Kuhl did not issue a series of comprehensive
16 dismissal opinions identifying what features are protected by Section 230 and what features are not; thus,
17 Judge Kuhl’s *Sargon Order* did not evaluate whether the experts based their opinions on the very features
18 this Court has held **cannot form** the basis of Plaintiffs’ claims.

19 Judge Kuhl’s ruling relied heavily on *Garner v. BNSF Railway Co.*, 98 Cal. App. 5th 660 (2024),
20 see Mot. Ex. 2 (*Sargon Order*) 4–8, but *Garner* is not applicable in this proceeding for several reasons.
21 *First*, *Garner* was an action under the federal Employers’ Liability Act, which has a “relaxed” standard
22 requiring “much less” evidence to establish liability “than in an ordinary negligence action.” 98 Cal. App.
23 5th at 676. Under that relaxed standard, plaintiffs can get to the jury any time “there is any evidence,
24 ‘even the slightest.’” *Id.* *Second*, *Garner* stated that “whether an inference of causation based on an
25 association is appropriate is a matter of informed judgment” and “**not** scientific methodology.” *Id.* at 678,
26 680 (emphasis added). The Ninth Circuit, by contrast, has emphasized that causation experts must provide
27 “sufficiently compelling proof that the [event] must have caused the damage somehow” and base their
28 causal theory “on objective, verifiable evidence and scientific methodology of the kind traditionally used

by *experts* in the field.” *Domingo ex rel. Domingo v. T.K.*, 289 F.3d 600, 607 (9th Cir. 2002) (emphasis added). *Finally*, the kind of methodological flaws presented here was not even presented in *Garner*, where the defense had “presented *no* evidence calling into question the scientific validity or reliability of” the experts’ “reasoning or methodology.” 98 Cal. App. 5th at 678, 680 (emphasis added).

2. Plaintiffs May Not Evade Methodological Scrutiny by Invoking “Totality of the Circumstances” and Postponing Any Further Inquiry to Trial.

On substance, Plaintiffs core response is that their experts are well credentialed and reviewed “the totality of the evidence . . . [t]ogether with their expertise and experience.” Opp. 1, 10. But credentials and lengthy expert reports are no substitute for rigorous and well-supported opinions as Rule 702 requires. Indeed, it is particularly important for the Court to exercise its gatekeeping function when experts perceived as credentialed seek to provide “unfounded or unreliable opinions” that would otherwise “contaminat[e] a jury trial.” *Elosu v. Middlefork Ranch Inc.*, 26 F.4th 1017, 1020 (9th Cir. 2022). To correctly apply Rule 702, “the Court must be able to see the mechanisms [employed] to determine if they are reliable and helpful.” *GPNE Corp. v. Apple, Inc.*, 2014 WL 1494247, at *4 (N.D. Cal. Apr. 16, 2014) (quotation marks omitted). Plaintiffs’ vague reference to the “totality of the evidence” seeks to obscure fatal defects in their experts’ analyses. The invocation of such generalities does not meet Plaintiffs’ burden to demonstrate that each expert meets the Rule 702 requirements. *Engilis*, 151 F.4th at 1049.

3. Social Media Addiction Is Not a Recognized Clinical Condition.

Plaintiffs acknowledge that their core contention in these cases is that “social media addiction” is “a clinically relevant disorder.” Opp. 7. But Plaintiffs do not dispute that “social media addiction” is not recognized by the DSM-5-TR, and they point to no other authoritative medical source supporting its existence as a diagnosable clinical disorder. Nor do they point to any specific validated criteria for diagnosing “social media addiction.” Without validated, uniform criteria capable of diagnosing this alleged disorder, Plaintiffs’ expert testimony is nothing more than speculation.

Plaintiffs instead highlight three sources to support the supposed recognition of “social media addiction” as a clinical disorder in the scientific community. None does so. First, Plaintiffs cite the van den Eijnden study, but that study notes that “diagnostic manuals including the [DSM-5] do not acknowledge social media addition.” Ex. 2 (van den Eijnden Study) 784. Second, Plaintiffs rely on a

report on the “Bergen Social Media Addiction Scale,” but that report explicitly states that “no . . . consensus has been reached as to the role of addiction in social media consumption,” and that “social media addiction” has not been “officially accepted as a mental disorder.” Ex. 3 (Bergen Study) 6. Finally, Plaintiffs cite to an APA webpage, a public-facing advisory that was not subject to peer review and does not purport to elevate “social media addiction” as a clinically diagnosable condition. *See* Opp. Ex. 9 (APA Web Page) (ECF No. 2405-12).

To try to camouflage the absence of scientific validation for “social media addiction” as a clinical disorder, Plaintiffs’ experts rely upon their own’ statements to form the remainder of Plaintiffs’ “sources.” But Plaintiffs cannot bootstrap their own experts’ litigation opinions as evidence of real-world scientific consensus. “Something doesn’t become scientific knowledge just because it’s uttered by a scientist; nor can an expert’s self-serving assertion that his conclusions were derived by the scientific method be deemed conclusive.” *Henricksen v. ConocoPhillips Co.*, 605 F. Supp. 2d 1142, 1154 (E.D. Wash. 2009).

4. Plaintiffs’ Experts’ Regurgitation of Internal Documents Is Improper.

Plaintiffs also have failed to justify their experts’ extensive reliance on internal company documents that the experts have no expertise in analyzing. It is well settled that “experts may not ‘regurgitate information from another source without applying any of his or her own expertise.’” *Neo4j, Inc. v. PureThink, LLC*, 2023 WL 7093805, at *7 (N.D. Cal. Oct. 25, 2023). Moreover, “it is improper for an expert ‘to become a vehicle for factual narrative.’” *Ohio State Troopers Ass’n, Inc. v. Point Blank Enters., Inc.*, 2020 WL 1666763, at *15 (S.D. Fla. Apr. 3, 2010)). And Plaintiffs provide no support for their empty assertion that the internal documents are too “complicated, voluminous and/or [] scientific” for a lay jury to understand. Opp. 20–21; *Pashman v. Aetna Ins. Co.*, 2014 WL 3571689, at *9 (N.D. Cal. July 18, 2014) (“[C]onclusory assertions will not suffice”).

Plaintiffs nonetheless claim that their experts should be permitted to summarize hundreds of internal company documents to the jury because their experts purportedly “used [company documents] to develop and reinforce [their] opinions.” Opp. 20. But, as discussed below, that assertion is contradicted by the experts’ own testimony and reports, which make clear that they have no experience with most of

the materials on which they purport to rely.¹ Several Plaintiffs’ experts went even further, acknowledging that they have not relied—and do not rely—on such records in their professional work outside of litigation. *See infra* § II.B(1)-(4), (7) (Christakis, Cingel, Goldfield, Lembke, Telzer). Plaintiffs’ explanation only highlights the unreliability of their experts’ methodologies.

5. The Proffered Expert Testimony Is No More Admissible in the Context of Plaintiffs’ Consumer-Protection Claims.

The State AGs’ general causation experts fare no better. The State AGs cannot prove that Meta made deceptive statements about safety without proof that *Meta’s* specific platforms were unsafe in the ways the AGs contend. *See In re Methyl Tertiary Butyl Ether (“MTBE”) Prods. Liab. Litig.*, 175 F. Supp. 2d 593, 619 (S.D.N.Y. 2001) (“Regardless of the theory upon which liability is predicated, . . . there must be proof that the defendant being sued is the entity that . . . was in some way responsible . . .”). Plaintiffs’ effort to distinguish *Sanderson v. International Flavors & Fragrances, Inc.*, 950 F. Supp. 981, (C.D. Cal. 1996), fails, including because their claim i that they have sued the entire social media industry in this case (“there is a finite number of platforms that have all been identified”) is contradicted by both the pleadings and common sense; Twitter/X, Reddit, Discord, and Pinterest are not defendants in the actions brought by Personal Injury and School District Plaintiffs.

B. Each of Plaintiffs’ Experts Offering Opinions Against All Defendants Should Be Excluded

The methodological flaws that pervade Plaintiffs’ experts’ opinions are seen clearly in reviewing each expert’s opinions—and in the Opposition’s failure to meaningfully address those flaws.

1. Dr. Christakis [PI/SD]

Plaintiffs’ Opposition does not remedy the fatal flaws in Dr. Dimitri Christakis’s opinions: improper reliance on third party content and publishing features and an unreliable methodology.

a) Dr. Christakis Does Not Reliably Opine That Defendants’ Actionable Features Can Independently Cause the Alleged Harms.

Plaintiffs’ Opposition confirms that Dr. Christakis, like the rest of Plaintiffs’ experts, has not

¹ Plaintiffs’ in-circuit authorities are unavailing. In *Avila v. Ford Motor Co.*, 2025 WL 2538722, at *3 (N.D. Cal. Aug. 22, 2025), defendants conceded the experts applied expertise. *Neo4j v. PureThink*, 2025 WL 2538722, at *3, *excluded* the expert testimony. In *re Juul Labs*, 2022 WL 1814440, at *14 (N.D. Cal. June 2, 2022), noted that objections to such testimony must be considered, although in that case at trial.

1 answered the central question before him: whether non-barred features, standing alone, are capable of
 2 causing harm. Mot. 1011. He claimed separating the effects of non-protected conduct from the effects of
 3 protected publishing activity and third-party content is “not a relevant question” or “unanswerable,” Mot.
 4 Ex. 12 (Christakis MDL Dep.) (ECF No. 2298-15) 94:15-20; 227:16-228:5, despite the centrality of that
 5 issue to liability here. Plaintiffs do not engage with Dr. Christakis’s admissions that his claims involve
 6 content and protected features or contest numerous examples of Dr. Christakis’s reliance on content. Mot.
 7 89. Worse, they ignore Dr. Christakis’ concession that the question which effects derive from protected
 8 publishing activity and third-party content is “unanswerable.” If Plaintiffs’ own expert cannot parse the
 9 impacts of actionable and non-actionable conduct, how can the Court expect a lay jury to do so?

10 Plaintiffs attempt to skirt Dr. Christakis’s emphasis² on content based on language in his report
 11 claiming that “all content on social media is only experienced within the context of features that have been
 12 engineered to increase engagement.” Opp. 23 (citing Opp. Ex. 11 (Christakis Reb. Rep.) (ECF No. 2405-
 13 14) ¶ 19). But as Plaintiff’s Opposition and Dr. Christakis’s reports make clear, Dr. Christakis’s opinions
 14 that “features” cause harm relate to features that the Court has ruled are not at issue here. Dr. Christakis
 15 cites a slide discussing “‘closed portals’ and ‘infinity scrolls.’” Opp. Ex. 11 (Christakis Reb. Rep.) (ECF
 16 No. 2405-14) 12 fig. 5. But Dr. Christakis admitted that he does not know what “closed portals” are, and
 17 this Court held that the “infinite scroll” design feature is immunized by Section 230. Mot. 11; Order
 18 Granting in Part and Denying in Part Defs.’ Mot. to Dismiss (“Dismissal Order”) 16 (ECF No. 430).
 19 Moreover, the Court found that the other aspects of Defendants’ platforms that Plaintiffs rely upon in their
 20 Opposition, such as “likes and metrics,” “auto-play,” and “notifications,” are publishing features protected
 21

22 ² Dr. Christakis emphasized content as the cause of harm in his pre-litigation publications as well. Mot.
 23 10–11. Plaintiffs attempt to distance Dr. Christakis from his earlier claim that “content drives any
 24 observed effects” of media on mental health, stating that Dr. Christakis’s publication relates to “all types
 25 of digital addiction, but only in children agreed 5-11 years.” Opp. 23. This is not true – the one-and-a-
 26 half-page article references social media six times and teens or teenagers three times. Mot. Ex. 14 (Ex.
 27 35 to Christakis JCCP Dep. Vol. 1) (ECF No. 2298-17) 2277–78. And immediately after the portion that
 28 Plaintiffs quote, Dr. Christakis wrote, “[e]ven drawing distinctions between social media vs passive
 viewing or gaming is inadequate. For example, 1 hour of social media usage could be spent in an online
 support group.” *Id.* at 2277. Dr. Christakis’s out-of-court advocacy against Section 230 and his awareness
 of the limiting role it plays in this litigation underscore that he has abandoned his long-held opinions to
 circumvent Section 230. Mot. 10.

1 by Section 230. Opp. 24; Dismissal Order 18, 16; Dismissal Order 12–14, 26–27.

2 Plaintiffs assert that “Dr. Christakis relies on dozens of studies that analyze how certain design
3 features impact mental health harms,” Opp. 25, but those studies only highlight Dr. Christakis’s failure to
4 reliably opine that Defendants’ actionable features can independently cause the harms Plaintiffs allege.
5 Plaintiffs discuss only one article they say supports Dr. Christakis’s opinion that features cause harm, an
6 experimental study by Kleemans. Opp. 25 (citing Opp. Ex. 39 (ECF No. 2405-42)). But that study tested
7 the impact of viewing “manipulated photos” using edited “sample images” of strangers (*i.e.*, third-party
8 content). Opp. 25; Opp. Ex. 39 (ECF No. 2405-42) at 98. And, as Dr. Christakis acknowledged in his
9 report, the study found only “that body image and satisfaction were lower upon viewing” manipulated
10 photos (not that the use of any feature caused cognizable “mental health harms”). Opp. Ex. 15 (ECF No.
11 2405-18) ¶ 278. Plaintiffs cite other studies allegedly supporting Dr. Christakis’s opinions. *See* Opp. 25.
12 But those studies expressly measure the effects of content or protected features; they do not purport to
13 find that any *actionable* features cause mental health harms. *E.g.*, Opp. Ex. 42 (Sherman (2016)) (ECF
14 No. 2405-45) at 1027 (“adolescents’ behavioral and neural responses to *likes*” (emphasis in original));
15 Opp. Ex. 45 (Chen (2024)) (ECF No. 2405-48) (users’ perception of different “autoplay” modes on
16 researcher-created video platform designed to show users “extreme” or “non-extreme” content); Opp. Ex.
17 46 (van Essen (2023)) (ECF No. 2405-49) (“Our study does contribute to cumulative evidence ... that the
18 public concern about these gamified forms of interpersonal communication may be overstated.”); Opp.
19 Ex. 47 (Dores (2025)) (ECF No. 2405-50) at 1 (“the effects of the ‘like’ feedback on brain activity”).
20 Plaintiffs cannot invoke the “totality of evidence,” Opp. 25, when there is so great a gap between the
21 evidence and an opinion that Defendants’ actionable features can independently cause mental health
22 harms. *See Siharath v. Sandoz Pharms. Corp.*, 131 F. Supp. 2d 1347, 1371 (N.D. Ga. 2001), *aff’d sub*
23 *nom. Rider v. Sandoz Pharms. Corp.*, 295 F.3d 1194 (11th Cir. 2002) (“[O]ne cannot lump together lots
24 of hollow evidence in an attempt to determine what caused a medical harm.”).

25 Dr. Christakis’s lack of foundational knowledge about the features on which his causation opinions
26 depend compounds this problem. Dr. Christakis could not explain how Instagram autoplay works or
27 whether Snapchat has autoplay at all, did not know whether “likes” on Snapchat are publicly visible, and
28 does not “know how the algorithms vary” among Defendants’ services. Mot. 21; Mot. Ex. 15 (Christakis

JCCP Dep.) (ECF No. 2298-18) 475:25–476:2; 476:7–11; 477:23–478:5; 770:8–14; 415:12–13. Without such knowledge, any opinions relating to Defendants’ specific non-publishing features rests on speculation and assumptions that Rule 702 forbids. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999) (experts must employ in court the same “intellectual rigor” that characterizes practice in the field).

b) Dr. Christakis’s Unsupported Opinions About Medical “Consensus,” Safety Features, and Company Documents Should be Excluded.

If Dr. Christakis is permitted to testify at all (he should not be), the Court should at a minimum prevent him from offering specific opinions for which he has no expertise or evidentiary support—*i.e.*, that a medical consensus holds social media to be addictive, that Defendants’ safety features are deficient, and that Defendants engaged in bad conduct based solely on company documents.

Purported “Scientific Consensus.” First, Dr. Christakis should not be permitted to opine there is a consensus in the medical community that social media is addictive, because his sources do not support his say-so. Mot. 1213. Plaintiffs try to soften this opinion, claiming his sources support a “conclusion that social media is harming adolescents.” Opp. 27. But Dr. Christakis’s testimony was unambiguously more expansive: he believes that a medical consensus recognizes social media to be *addictive*. Mot. Ex. 15 (Christakis JCCP Dep.) (ECF No. 2298-18) 50:5-15 (“Q. If you look across the medical community, do you believe that there is a consensus that social media is addictive? A. Yes, I believe that’s true. A. And you believe that consensus is held by the medical community at large? A. Yes, I believe that’s true.”). That *ipse dixit* opinion is not supported by sufficient factual grounds and must be excluded. *Hyer v. City & County of Honolulu*, 118 F.4th 1044, 1056 (9th Cir. 2024).

Safety Features. Dr. Christakis’s opinions on the design of Defendants’ parental controls, safety features, and age gating fall outside his expertise and lack a reliable methodology. Plaintiffs do not contest Dr. Christakis’s admission that he lacks “technical expertise” in “age verification.” Mot. 13. Plaintiffs attempt to align Dr. Christakis’s limited expertise with his opinions by suggesting that Defendants “need to do a better job in designing these safety controls.” Opp. 27. But that is not a proper expert opinion, and even as narrowed, it is not one for which Dr. Christakis has any relevant expertise. Plaintiffs also misstate the opinions that Dr. Christakis seemingly intends to offer—Dr. Christakis dedicates entire sections of his report to “Prevention Measures” (Section XIII, which “walk[s] through specific prevention

steps” Defendants could have taken) and “Safer Alternative Design” (Section IX.F). Because Plaintiffs concede his lack of expertise in platform design and engineering, these opinions should be excluded.

Company Documents. Plaintiffs’ Opposition confirms that Dr. Christakis’s company-documents opinions should be excluded. First, even though Plaintiffs disclaim that their experts offer such opinions, Opp. 21, Dr. Christakis cites company testimony and documents for the purpose of offering opinions about Defendants’ motives and knowledge. *See* Mot. 13; Mot. Ex. 6 (Christakis MDL Rep.) (ECF No. 2298-9) ¶ 496 (“[t]he documents I have reviewed leave little room for doubt that growth considerations motivated this decision”), ¶ 111 (“YouTube is keenly aware of the science behind habit formation...”).

Second, Dr. Christakis admitted that a review of internal company documents does not satisfy the usual scientific standards in his field. *See* Mot. 13. Plaintiffs’ non-sequitur that he uses his own employers’ internal documents in making business decisions and has reviewed “industry studies,” Opp. 27, provides no support for his use of Defendants’ internal documents to offer general causation opinions.

2. Dr. Cingel [PI/SD]

Plaintiffs’ Opposition similarly fails to rehabilitate Dr. Cingel’s unreliable methodology and his lack of qualifications to offer broad opinions about adolescent mental health and platform design.

a) Dr. Cingel Cannot Reliably Separate Alleged Harms of Platform Features from Harms of Content.

Dr. Cingel’s opinions should be excluded because they address purported harms caused by content and protected features. As with Dr. Christakis, Plaintiffs attempt to sidestep this issue by reciting features Dr. Cingel discusses in his report, but Plaintiffs do not address Dr. Cingel’s admitted inability to isolate the effects of features from the effects of content. Dr. Cingel certainly *discusses* features, but it is undisputed that he makes no effort to disentangle features from content—because, as he has personally made clear, he cannot. In deposition, when asked whether he could disentangle harms attributable to the design of a platform feature from those attributable to the content that a platform feature surfaces or presents, Dr. Cingel explained that features and content are “intricately tied together.” Mot. Ex. 15 (Cingel JCCP Dep.) (ECF No. 2298-18) 97:2–7; *see also id.* 104:22–24 (“you cannot separate those two things [content and features] out”). Accordingly, Dr. Cingel’s opinions as to the alleged effects of Defendants’ features have no reliable methodology that is compatible with Section 230 and the First Amendment.

1 Plaintiffs' invocation of their failure to warn claim does not resolve Dr. Cingel's impermissible
2 reliance on content in violation of Section 230 and the First Amendment. *See* Defs' Sec. 230 Reply § II.A.

3 **b) Dr. Cingel's Expertise Does Not Fit His Opinions.**

4 Plaintiffs' Opposition fails to establish that Dr. Cingel is qualified to provide general causation
5 opinions. Plaintiffs assert that Dr. Cingel is "eminently qualified," emphasizing his academic work in
6 communications. But whether Dr. Cingel is an accomplished communications scholar is irrelevant to
7 whether that expertise fits the opinions he intends to offer here.

8 It does not. Plaintiffs' description of Dr. Cingel's credentials leaves a gap between (a) his actual
9 expertise and (b) the adolescent-development topics he seeks to opine on. It is undisputed that Dr. Cingel
10 has no certifications in adolescent or developmental psychology/psychiatry, no education in neuroscience,
11 does not practice either adolescent psychology or psychiatry, and does not diagnose adolescents with
12 mental or physical conditions. Dr. Cingel therefore lacks a reliable basis to opine that adolescent
13 developmental susceptibilities cause adolescents to experience harm from social media. *See* Mot. 15–16.

14 Plaintiffs also mischaracterize Dr. Cingel's opinions regarding the design of Defendants'
15 platforms, arguing that his lack of software design expertise is acceptable because he is supposedly not
16 opining as to how Defendants should have designed their platforms. But Dr. Cingel does opine on whether
17 Defendants acted reasonably in designing their platforms, Mot. Ex. 14 (ECF No. 2298-18) (Cingel Rep.)
18 ¶ 17 (Opinion 16) and Defendants' priorities in platform design, *id.* ¶ 15 (Opinion 14). Plaintiffs do not
19 identify any expertise on which Dr. Cingel could base those opinions.

20 **c) Plaintiffs Confirm Dr. Cingel's Opinions Distort the Science.**

21 Plaintiffs' Opposition also does not substantively address the fundamental defect in Dr. Cingel's
22 methodology: he has not articulated any principles to justify his leap from a body of *correlational* research
23 to the *causation* opinions he now offers. *See* Mot. 17. Plaintiffs attempt to excuse this defect by claiming
24 that Dr. Cingel did not hold out any individual study as independently establishing causation. But that is
25 beside the point. Plaintiffs do not dispute that Dr. Cingel relied on and cited dozens of correlational studies
26 to support his causal conclusions, and Plaintiffs cannot identify any reliable methodology Dr. Cingel used
27 to draw causal conclusions from such studies—over the explicit objections of the authors of those
28 underlying correlational studies. That analytical gap renders Dr. Cingel's opinions inadmissible. *See*,

1 *e.g.*, *In re Nexium Eesomeprazole*, 662 F. App'x 528, 530 (9th Cir. 2016) (affirming exclusion of expert
 2 who “did not explain how he came to a different conclusion than the studies’ authors”); *see also Gen.*
 3 *Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (large “analytical gap[s]” between an expert’s opinion and
 4 the contents of the literature cited for that proposition support exclusion). Reviewing some correlational
 5 studies, without articulating a systematic way of weighing, integrating, and drawing causal inferences
 6 from them, is not “the product of reliable principles and methods” as Rule 702(c) requires.

7 This methodological problem is compounded by the fact that Dr. Cingel does not analyze causation
 8 for each defendant. Plaintiffs apparently take the position that so long as *some* defendant platforms share
 9 *some* features, Dr. Cingel may offer sweeping opinions as to all defendants. Though Plaintiffs’ assert that
 10 this is a criticism of the particular literature relied upon (and therefore grounds for cross-examination),
 11 Dr. Cingel’s inability to analyze the platforms’ features separately is actually a fundamental
 12 methodological defect. Dr. Cingel’s opinions lack a reliable methodology for extrapolating science across
 13 defendants (including relying upon studies of different, non-defendant platforms such as LinkedIn) with
 14 different features or for considering the absence of certain features on defendant platforms. *See* Mot. 19.

15 **d) Dr. Cingel’s “Problematic,” “Excessive,” and “Addictive” Use**
 16 **Constructs Are Undefined and Not Scientifically Reliable.**

17 The unreliability of Dr. Cingel’s opinions is exacerbated by his reliance on undefined constructs
 18 such as “problematic use,” “excessive use,” and “addiction.” Plaintiffs offer no cogent defense of Dr.
 19 Cingel’s reliance on these terms. As to the phrase “problematic use,” Plaintiffs assert that “problematic
 20 use” was defined during Dr. Cingel’s deposition. Opp. at 33. To the contrary, Dr. Cingel made clear
 21 during his deposition that, as he uses it, the concept lacks any useful definition, refusing to commit to any
 22 objective amount of use that is “problematic.” Cingel JCCP Dep. 152:15–155:14. Dr. Cingel has also
 23 never identified any set of factors that would allow another expert—or the jury—to determine whether a
 24 given adolescent’s social media use is “problematic.” Without being able to say, in any replicable way,
 25 when use becomes “problematic,” “excessive,” or “addictive,” Dr. Cingel cannot reliably opine that
 26 “problematic,” “excessive,” or “addictive” use of Defendants’ platforms causes the alleged harms.

27 **e) Dr. Cingel’s Use of Internal Company Documents Is Mere Narrative.**

28 Lastly, Plaintiffs ignore Rule 702’s requirements in attempting to defend Dr. Cingel’s regurgitation

1 of internal company documents. Plaintiffs assert that Dr. Cingel's reliance on internal company
2 documents is permissible because he uses them to "confirm" his opinions, and accuse Defendants of
3 faulting Dr. Cingel for "citing too much evidence." But the issue is not that Dr. Cingel cited "too much
4 evidence"; it is that, with respect to internal company documents, Dr. Cingel is not doing anything
5 requiring expertise. Dr. Cingel simply has no expertise or prior experience to bring to bear on internal
6 company documents. By his own account, he has not previously used internal corporate documents in his
7 academic work. Whether Dr. Cingel wishes he had experience reviewing such materials is irrelevant to
8 the Court's duty to prevent the use of an expert as a vehicle for factual narrative. *See* Mot. 20.

9 To be clear: Dr. Cingel did not, for example, analyze raw internal data according to established
10 scientific methods or replicate any internal analyses. Instead, his discussion about company documents
11 consists solely of either (a) drawing inferences about Defendants' knowledge or state of mind based on
12 what those documents say on their face, or (b) relying on internal documents in lieu of actual scientific
13 studies. But Dr. Cingel has no expertise to offer with respect to company documents, and he should not
14 be permitted to walk through company documents that any lay person is capable of reading.

15 3. Dr. Goldfield [PI/SD]

16 Plaintiffs' Opposition largely sidesteps Defendants' challenges to Dr. Goldfield's specific
17 improper opinions, and it erroneously characterizes aspects of the record to incorrectly suggest those
18 opinions are proper. They are not. Dr. Goldfield plainly seeks to offer opinions that are barred by Section
19 230 and the First Amendment and that improperly speculate about what Defendants knew or should have
20 known. Plaintiffs also fail to identify any reliable basis for Dr. Goldfield's opinions that social media use
21 harms academic performance or for his "all platforms together" Bradford Hill analysis.

22 a) Dr. Goldfield Cannot Opine About Harms Caused by Third-Party 23 Content or Protected Publishing Features.

24 Dr. Goldfield's opinions are explicitly based on protected publishing features of Defendants'
25 platforms, and Plaintiffs fail to show otherwise. *First*, Plaintiffs' assertion that Dr. Goldfield's
26 "fitspiration" and "thinspiration" opinions are limited to "the effects of appearance filters" is plainly false.
27
28

Opp. 34.³ Dr. Goldfield’s report states: “Trends such as ‘fitspiration’ and ‘thinspiration’ expose adolescents to idealized and often digitally altered body images,” harm users, including “*through recommender algorithms that aggregate this content and present it to users in an ‘infinite scroll[.]’*” Mot. Ex. 24 (Goldfield Rep.) (ECF No. 2298-27) ¶ 227 (emphasis added). This opinion is barred by this Court’s orders. PI Order (ECF No. 430) 12 (Section 230 bars claims based on “deciding whether to publish or to withdraw from publication third-party content”); *id.* at 18–19 (“[T]o the extent plaintiffs challenge defendants’ use of algorithms to determine whether, when, and to whom to publish third-party content, Section 230 immunized defendants.”); *id.* at 16 (Section 230 bars claims based on “[n]ot providing a beginning and end to a user’s ‘Feed’”).

Second, Plaintiffs entirely ignore the many other examples of Dr. Goldfield alleging harm caused by third-party content. *See, e.g.*, Mot. Ex. 24 (Goldfield Rep.) (ECF No. 2298-27) ¶ 229 (“The potential harm to young adults from repeated exposure to negative messaging, eating disorder promotion, and self-harm content is severe”); *id.* ¶ 231 (discussing harm in young people “exposed to images of sexualized peers”); *id.* ¶ 232 (alleging that “social media significantly contributes to the dissemination and adoption of certain behaviors and emotions” through shared content). *See generally* Mot. 23.⁴

Indeed, Plaintiffs do not meaningfully dispute that Dr. Goldfield’s overall conclusions are inextricable from those barred theories. Dr. Goldfield himself conceded that his analysis is based on effects caused by Defendants’ protected conduct, Mot. Ex. 26 (Goldfield MDL Dep.) (ECF No. 2298-29) 693:17–23 (stating that he expected that without the protected features, the platforms would “be a lot less addictive . . . there would be better sleep, better executive control, less anxiety, less depression”); and that

³ While this Court held Section 230 does not bar certain allegations regarding minors *using* filters, the cited discussion focuses on effects of *viewing* allegedly harmful images through features this Court held are protected by Section 230. *See* PI Order (ECF No. 430) at 15 (“Plaintiffs plausibly allege that the filters are harmful regardless of whether children eventually post the images that they filtered.”). And the Ninth Circuit held that a plaintiff “would not be permitted under [Section 230] to fault [a platform] for publishing” content created using a filter, as Dr. Goldfield references here. *Lemmon v. Snap, Inc.*, 995 F.3d 1085, 1093 n.4 (9th Cir. 2021). At minimum, the cited claims are not limited to filtered content.

⁴ *Compare* PI Order (ECF No. 430) 16–19, *with* Mot. Ex. 24 (Goldfield Rep.) (ECF No. 2298-27) ¶ 1.B (notifications, algorithms); Mot. Ex. 26 (Goldfield MDL Dep.) (ECF No. 2298-29) 654:4–24 (algorithms); *id.* 664:7–665:2 (infinite scroll, autoplay); *id.* 669:22–671:3 (timed notifications); *id.* 679:3–680:18 (geolocation); *id.* 683:21–684:13 (short-form videos); *id.* 688:3–17 (private messaging, private content).

1 he cannot identify how much—if any—harm is caused by Defendants’ protected conduct as opposed to
 2 other factors, *see* Mot. 22–23; Mot. Ex. 25 (Goldfield JCCP Dep.) (ECF No. 2298-28) 252:13–18 (stating
 3 that he cannot “guesstimate the proportion of harm caused by content versus the features” and would
 4 “have no basis of the opinion” on that issue). Because Dr. Goldfield’s opinions could not give a jury any
 5 basis to hold Defendants liable for non-protected conduct, they must be barred. *See* Sec. 230 Reply.

6 **b) Dr. Goldfield Cannot Offer Opinions About Defendants’ Knowledge.**

7 Plaintiffs concede that Dr. Goldfield cannot testify that Defendants’ internal documents show
 8 Defendants “knew or should have known” their platforms were harmful to children. Opp. 37 & n.11. But
 9 Plaintiffs try to smuggle in these opinions under a different guise by changing the title of Section 6 of Dr.
 10 Goldfield’s report from “Defendants’ Knowledge” to “Defendants’ *Internal Information*.” Mot. Ex. 24
 11 (Goldfield Rep.) (ECF No. 2298-27) § 6 (emphasis added). The Court should reject this transparent
 12 gambit. Plaintiffs do not identify any relevant experience, knowledge, or standards based on which Dr.
 13 Goldfield could testify about the documents, because he has none. Mot. 25–26; Mot. Ex. 25 (Goldfield
 14 JCCP Dep.) (ECF No. 2298-28) 590:20–25. These opinions should therefore be excluded.

15 **c) Dr. Goldfield’s Opinion as to Academic Performance Is Unsupported.**

16 Plaintiffs misunderstand one of two academic studies Dr. Goldfield relies on, and fail to explain
 17 how he can reliably opine that social media use negatively impacts students’ academic performance
 18 without any supporting data. *See* Mot. 27; Mot. Ex. 24 (Goldfield Rep.) (ECF No. 2298-27) ¶¶ 159–162.

19 Dr. Goldfield cites only two meta-analyses concerning social media use and academic
 20 performance. These studies cannot reliably support Dr. Goldfield’s conclusion, so his opinion must be
 21 excluded. *See DSU Med. Corp. v. JMS Co.*, 296 F. Supp. 2d 1140, 1158 (N.D. Cal. 2003) (barring expert
 22 testimony based on “the analytical gap between the data used and the opinion offered”).

23 *First*, Dr. Goldfield admitted that the first meta-analysis he cites (by Metin Kus) *contradicts* his
 24 opinion because it found that “the effect of social media use on” academic performance was “*weakly*
 25 *positive*, though not statistically significant.” Mot. Ex. 25 (Goldfield JCCP Dep.) (ECF No. 2298-28)
 26 353:10–354:12 (emphasis added). Plaintiffs’ argument that “even these small effects are meaningful at a
 27 population level” is self-defeating, as the study found *positive*, not negative, effects. *See* Opp. 38. *Second*,
 28 Dr. Goldfield conceded that the second meta-analysis (by Nader Salari) relied entirely on correlational

1 studies involving exclusively college students, and all but one of those studies concerned students in Asia
 2 and the Middle East. *Id.* 356:11–357:13, 155:24–156:23, 357:18–25. The federal rules require experts to
 3 “select samples that are truly comparable,” *State Farm Fire & Cas. Co. v. Elextrolux Home Prods., Inc.*,
 4 980 F. Supp. 2d 1031, 1049 (N.D. Ind. 2013), and they forbid experts from offering opinions that are
 5 “connected to existing data only by [their] *ipse dixit*,” *Joiner*, 522 U.S. at 146. Because Dr. Goldfield
 6 provides no basis to show that those studies are relevant to the students at issue in this litigation, his
 7 opinion regarding academic performance is mere *ipse dixit* and must be excluded.

8 **d) Dr. Goldfield Cannot Present an Improper “Multiple Associations At**
 9 **Once” Bradford Hill Analysis.**

10 Finally, Dr. Goldfield cannot present a Bradford Hill analysis that fails to separately analyze
 11 whether the evidence supports a causal link between any individual platforms, features, or alleged harms.
 12 Federal law bars opinions that group together “multiple associations at once,” as they cannot support any
 13 more focused causal claims. Neither Dr. Goldfield nor Plaintiffs provide any scientific support for
 14 combining separate and distinct mental health outcomes into one combined causation analysis. Further,
 15 Plaintiffs ignore the fact that Dr. Goldfield grouped together both a wide range of disorders and a wide
 16 range of “symptoms” that may or may not map onto Plaintiffs’ claimed disorders. Mot. 24; *see* Mot. Ex.
 17 25 (Goldfield JCCP Dep.) (ECF No. 2298-28) 791:137:10–13, 371:20–372:1.

18 Plaintiffs’ assertion that Dr. Goldfield analyzed the effects of each Defendant’s platform fares no
 19 better. Although Plaintiffs insist that “features are similar across all platforms” (Opp. 36–37), they cite
 20 no evidence to support the hypothesis that each platform has identical effects. As Dr. Goldfield explained,
 21 “[m]ost of the studies aggregate social media use” across platforms, Mot. Ex. 25 (Goldfield JCCP Dep.)
 22 (ECF No. 2298-28) 486:7–9, which prevents him from supporting that claim. Finally, Dr. Goldfield
 23 conceded he did not perform a causal analysis of each Defendant’s platforms. *Id.* 343:22–344:6 (“there
 24 is not enough literature to even support that”); *id.* 486:7–9. While Plaintiffs claim that “Dr. Goldfield
 25 does in fact evaluate each Defendant[’]s platform separately,” they cite only Dr. Goldfield’s recitation of
 26 Defendants’ internal documents—not scientific studies—which is inadmissible for the reasons explained
 27 above. Opp. 37. And Plaintiffs do not dispute that Dr. Goldfield was unfamiliar with Defendants’
 28 platforms, despite his alleged evaluation of each. *See* Mot. Ex. 25 (Goldfield JCCP Dep.) (ECF No. 2298-

28) 446:18–25 (no familiarity with how Snapchat is used); *id.* 541:24–544:21 (no familiarity with YouTube age verification process). Therefore, Dr. Goldfield’s Bradford Hill analysis cannot support any Plaintiff’s claim that “any particular defendant’s products” caused their injuries. *Sanderson*, 950 F. Supp. at 984.

4. Dr. Lembke [PI/SD]

Plaintiffs acknowledge Dr. Lembke has not “tailored her opinions to the Court’s Section 230 Order by only analyzing ‘unprotected’ features.” Opp. 40 n.12. As a result, she has **no** methodology capable of opining that unprotected, non-publishing features, on their own, can cause addiction or other harms—the central question that must be answered here. This alone requires exclusion of her opinions.

The Opposition makes clear that Dr. Lembke’s opinions should be excluded for other reasons, too. Plaintiffs concede Dr. Lembke’s addiction theory is based upon criteria from a diagnostic manual (DSM-5) that does not recognize social media addiction. Opp. 41. Plaintiffs identify no scientific support for Dr. Lembke’s untested hypothesis—that social media interactions produce more “dopamine” in teens’ brains than other activities. Nor do Plaintiffs identify any specialized knowledge about platform design or features that would qualify Dr. Lembke to comment on internal, cherry-picked documents. Lastly, Plaintiffs misconstrue the test for excluding Dr. Lembke’s untimely (and unsupported) rebuttal opinion.

a) Dr. Lembke’s Opinions 1-5 Are Inextricably Bound Up With the Impact of Features and Content This Court Ruled Were Protected.

Plaintiffs argue that Dr. Lembke’s “opinions do not rest solely, or even primarily, on content,” but, instead, on “design features.” Opp. 40. Plaintiffs, however, do not even attempt to address Defendants’ chart showing that **every design feature** referenced by Dr. Lembke in her analysis is a publishing feature that **this Court** has held is protected by Section 230 or the First Amendment. Mot. 29-31. And because Dr. Lembke chose **not** to “tailor[] her opinions to the Court’s Section 230 Order,” Opp. 40 n.12, she never evaluated whether any unprotected features, on their own, can cause addiction or any alleged harm. As a result, all Dr. Lembke’s opinions are unreliable for this case and will not assist the jury.

The Opposition confirms this methodological flaw: it attempts to defend Dr. Lembke’s opinions by citing her view that “‘the platforms are harmful’ because [of] **Defendants’ algorithms**” Opp. 40 (emphasis added). But this Court held that the “use of algorithms to promote addictive engagement” is a protected publishing activity. PI MTD Order, ECF No. 430, at 16. Worse, she conceded she cannot say

any platform would be addictive if she removed just one feature from her analysis. Mot. 31 (citing Mot. Ex. 33 (Aug. 27, 2025 Lembke Dep.) (ECF No. 2298-36) 143:14–21).

Plaintiffs argue that “Plaintiffs’ failure to warn claims” are not subject to Section 230 and “may be based on any and all features and the platforms as a whole.” Opp. 40. But as demonstrated in Defendants’ accompanying Section 230 reply brief, the Ninth Circuit has made clear that Section 230 applies to failure to warn claims. *See, e.g., Doe v. Grindr Inc.*, 128 F.4th 1148, 1154 (9th Cir. 2025); *Est. of Bride by and through Bride v. Yolo Techs., Inc.*, 112 F.4th 1168, 1180 (9th Cir. 2024). Because Dr. Lembke never evaluated whether any alleged harm could occur outside of features already held protected by Section 230 and the First Amendment, she lacks a reliable methodology.

b) Dr. Lembke’s Opinions (#1-5) That Social Media Can Lead to Addiction Are Untethered to Underlying Science or Medicine.

Dr. Lembke’s “addiction” opinions (Opinions 1-5) also should be excluded as unreliable because: (1) there is no diagnostically reliable definition for this mental health disorder; (2) her view of “addiction” is divorced from science; and (3) the premise behind her addiction theory is not testable. Mot. 32-33.

Plaintiffs argue that Dr. Lembke offers a proper method for diagnosing addiction based upon the “DSM-5 criteria.” Opp. 41. But “social media addiction” is absent from the DSM-5 and ICD-11, Mot. 1, 5, 32, so there is no tailored set of criteria for “social media” addiction. Plaintiffs also argue that courts in the *opioid litigation* have accepted her framework for addiction, Opp. 41 n.13, but unlike social media “addiction,” substance use disorder *is* recognized by the DSM-5 and has validated diagnostic criteria.

Plaintiffs’ attempt to tether Dr. Lembke’s opinions here to her opioid addiction opinions proves the point—that her theory of addiction is limitless, sweeping in such basic conduct as enjoying a romance novel. Mot. 33. Recognizing this, Plaintiffs argue “it is well-established that behaviors—even those that seem innocuous on their face—can be addictive.” Opp. 42. But they identify no scientific support. While addiction to drugs or gambling may be recognized by the DSM-5 or the ICD-11, these manuals do not recognize that reading romantic fiction, listening to music, or using social media can be addictive.

Lastly, Dr. Lembke’s theory rests upon an untested hypothesis: that social media addiction increases greater dopamine levels in the brain than other activities. Mot. 33. Plaintiffs argue that “[s]cientific literature shows that social connection activates the brain’s reward pathway and releases

dopamine,” Opp. 42, but, as Dr. Lembke admits, so does virtually every other pleasurable activity, like playing with a pet. Mot. Ex. 31 (June 18, 2025 Lembke Dep.) (ECF No. 2298-34) 137:15-138:7. Plaintiffs do not identify a single scientific study showing that the release of dopamine is higher from engaging with social media features than other activities. As a result, Dr. Lembke’s hypothesis remains untested, and Plaintiffs have not met their burden of showing that it should be admitted. *See, e.g., Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 677 (6th Cir. 2010) (“[W]hat science treats as a useful but untested hypothesis the law should generally treat as inadmissible speculation.”).

c) Dr. Lembke Cannot Opine About Internal Company Documents (Opinion 4) That She Has No Expertise or Context to Interpret.

Dr. Lembke’s Opinion 4 improperly offers more than 50 pages of narration of internal company documents that a jury is no less qualified to read and interpret. Mot. 33-34. Plaintiffs claim that is permissible based upon *City of Huntington v. AmerisourceBergen Drug Corp.*, No. CV 3:17-01362, 2021 WL 1320716 (S.D. W.Va. Apr. 8, 2021), but Judge Fabert *excluded* Dr. Lembke from doing this very thing in that opioid litigation case. *Id.* at *1-2. Like the documents here, Judge Faber found that it “does not appear that the corporate documents upon which the experts rely are overly technical or scientific such that a narrative summary would assist the trier of fact,” so there was “no need for long narrative expert testimony regarding those documents.” *Id.* at *2.

Plaintiffs make no showing that Dr. Lembke’s psychiatric expertise is required to narrate these documents to the jury. These are not medical records. Plaintiffs argue that Dr. Lembke “co-authored a peer-reviewed article analyzing opioid industry documents.” Opp. 43. But even if that qualified her to opine on the pharmaceutical industry, it does not make her an expert on social media or online video platforms. In addition, Dr. Lembke did not run her own search terms; nor did she ask for, much less review, all documents pertaining to internal studies about Defendants’ platforms, mental health issues, or platform benefits. Mot. 34. Instead, as is clear from the testimony Plaintiffs cite, Dr. Lembke asked counsel to search for and *give* her documents that bolster her “addiction” theory. Opp. 44. That is cherry-picking. *See In re Onglyza & Kombiglyze Prods. Liab. Litig.*, 93 F.4th 339, 347 (6th Cir. 2024).

Lastly, Plaintiffs do not disagree that Dr. Lembke is not permitted to give her own interpretations of Defendants’ state of mind, motive, and intent. Mot. 34 n.17 (identifying such opinions). As a result,

those opinions should be excluded. *See, e.g., City of Huntington*, 2021 WL 1320716, at *3.

d) Dr. Lembke’s “Rebuttal” Duty to Warn Opinion Is Improper.

Plaintiffs do not meaningfully dispute that Dr. Lembke’s one-sentence “should warn” opinion is an affirmative opinion and does not rebut any defense expert. This is fatal: “rebuttal experts . . . must contradict or rebut evidence or theories of the opposing expert witness.” *Abdo v. Fitzsimmons*, No. 17-CV-00851-TSH, 2020 WL 4051299, at *2 (N.D. Cal. July 20, 2020). Plaintiffs argue that Dr. Lembke’s “rebuttal” opinion is timely because, in her opening report, she “notes that TikTok employees ‘never warned their youth consumers or their parents about the addictive potential of their products.’” Opp. 44. A stray reference to one Defendant⁵ is not an opinion. None of her affirmative opinions addressed warnings, and she did not review any defense expert warning opinions.

Plaintiffs argue that Defendants have not shown prejudice. Opp. 45. But Plaintiffs misconstrue *their burden*. Rule 37(c)(1) requires Plaintiffs to “prove harmlessness.” *Yeti by Molly, Ltd. v. Deckers Outdoor Corp.*, 259 F.3d 1101, 1107 (9th Cir. 2001). Plaintiffs make no showing, and they cannot: Defendants have been deprived of the opportunity to submit expert reports addressing Dr. Lembke’s untimely opinion. *Abdo*, 2020 WL 4051299, at *4 (“late disclosure is not harmless because it deprived Plaintiffs of the opportunity to submit an expert report to rebut the Rebuttal Report”).

On top of being untimely, this opinion is an improper legal conclusion about whether Defendants “should” warn. Mot. 35; *see Saunders v. Consumers Energy Co.*, No. 1:19-CV-782, 2022 WL 22883512, at *3 (W.D. Mich. Apr. 14, 2022) (excluding expert opinion about existence of duty to warn because “[w]hether Defendant owed Plaintiff a duty to warn is a legal question”). Plaintiffs also do not attempt to explain Dr. Lembke’s methodology for this opinion because she has none. She evaluated none of the necessary details, including what any warnings should say, where they should be made, or whether they would be effective. Mot. Ex. 33 42:17–45:17. Plaintiffs merely point to Dr. Lembke’s “knowledge of and experience with warnings” (Opp. 45), without identifying that knowledge or experience, how it applies to social media platforms, or what research or analysis she did. This opinion should be excluded.

⁵ Plaintiffs argue, nonsensically, that two questions by JCCP Plaintiffs during her JCCP deposition gave Defendants notice to warnings opinions not affirmatively disclosed *in this proceeding*. Opp. 44-45.

1 **5. Dr. Mojtabai [PI/SD]**

2 As to Dr. Mojtabai, Plaintiffs ask the Court to focus on his report and ignore the significant
3 admissions he made at deposition, including regarding the role content plays in causing purported harm
4 from social media and regarding the limitations of the studies he analyzed. But Plaintiffs cannot avoid
5 those admissions, which show the fundamental flaws in his methodology and require exclusion.

6 **a) Dr. Mojtabai Repeatedly Conceded that Third-Party Content Supplies**
7 **the Basis for His Causation Opinions.**

8 Plaintiffs cannot ignore Dr. Mojtabai's unequivocal testimony regarding the role of third-party
9 content in his causation opinions. While Plaintiffs characterize Dr. Mojtabai's statements as "a single
10 excerpt" from his transcript, in reality Dr. Mojtabai made repeated admissions that his opinions are based
11 on the impact of third-party content. Opp. 46. Dr. Mojtabai testified that (1) *all* of the observational
12 studies he relies on assessed how participants reacted to content; (2) the "experimental studies exposed
13 participants to different types of content and then assessed whether mood change or change in social
14 comparison is induced by that"; and (3) the "extent of [social media] use is intimately related to the
15 content." Mot. Ex. 23 (Mojtabai JCCP Dep.) (ECF No. 2298-26) 594:2–9, 591:9–592:2, 709:11–13.
16 Plaintiffs also never challenge that the few longitudinal and experimental studies analyzing social media
17 features either solely assessed third-party content or showed no effect. Mot. 36–37; Mot. Ex. 23 (ECF
18 No. 2298-26) 574:23–582:25; *see* Mot. 46.

19 Plaintiffs make a last-ditch attempt to save Dr. Mojtabai's opinions using a leading question asked
20 at his deposition: "[Were] the majority of the results found in the studies regardless of content that the
21 participants were viewing?" *See* Opp. 46 (cleaned up). Dr. Mojtabai said "Yes" in response to that
22 question by Plaintiffs' counsel, but he immediately confirmed his prior admissions: "But as I said, extent
23 of use is intimately related to the content, the engagement caused by the algorithms. So separating these
24 is not easy, the content and the extent of use. But most of the studies used length of use or time—length
25 of time the person is on social media as a measure of exposure." Mot. Ex. 23 (Mojtabai JCCP Dep.) (ECF
26 No. 2298-26) 708:24–709:19.⁶ Dr. Mojtabai's response proves Defendants' point, and hardly

27 _____
28 ⁶ *See infra* at § II.B(5)(a) (explaining why Dr. Mojtabai cannot tie time spent on social media to the alleged injuries that he attributes to social media use).

“mischaracterize[s]” his analysis, including how he relies on the algorithm this Court has held is protected by Section 230. *See* Opp. 46. Finally, nowhere in his report or his deposition does Dr. Mojtabai explain how he can disaggregate the impact of content from the impact of features, let alone the handful of features that the Court has ruled can be a basis of liability. Plaintiffs’ Opposition points to no such analysis.

b) Dr. Mojtabai Relies on Studies that Cannot Support Causation.

Plaintiffs also fail to rehabilitate Dr. Mojtabai’s reliance on studies that cannot support causal conclusions or his slapdash Bradford Hill analysis. Plaintiffs concede that Dr. Mojtabai’s “totality of the evidence” causation analysis embraces cross-sectional/correlational studies. Opp. 47. And Plaintiffs disregard that Dr. Mojtabai’s own publications (and statements by the researchers who conducted the studies he relies upon) admit these studies cannot be used to make causal inferences. Mot. 37–39. Despite these undisputed facts, Plaintiffs proclaim that “Dr. Mojtabai employed the methods he uses in his academic research” and that his approach “reflects standard scientific practices.” Opp. 47. But Plaintiffs fail to cite a single scientific authority in either Section A.2 of their Opposition or in their argument specific to Dr. Mojtabai’s opinions that states that cross-sectional studies can be used for causal inferences. Plaintiffs also claim that an expert is permitted to exercise judgment to evaluate causation, Opp. 47–48, but Rule 702 nowhere grants an expert license to ignore well-established scientific principles when reaching causation opinions. This alone provides a basis to exclude his opinions.

Dr. Mojtabai’s methodology is also unreliable because he does not point to any study that assessed the alleged injuries at issue (*i.e.*, diagnosed psychiatric disorders). Plaintiffs’ Opposition never refutes Dr. Mojtabai’s admissions that no such study exists, and it fails to cite a single scientific authority to support Dr. Mojtabai’s use of screening scales and self-reported symptoms as a substitute for a diagnosis. Nor do Plaintiffs cite any analysis or data in Dr. Mojtabai’s report to justify this extrapolation. As Dr. Mojtabai himself testified: “by definition, a screening instrument or a questionnaire is not diagnostic.” Mot. Ex. 41 (Mojtabai MDL Dep.) (ECF No. 2298-44) 51:21–52:3. All this belies the claim that substituting screening scales or a collection of symptoms for a diagnosis is the “accepted standard[] of research in the field.” Opp. 49. Like Plaintiffs’ other experts, Dr. Mojtabai relies on his own say-so. Though Dr. Mojtabai stated that “in general” clinicians rely on “validated self-report measures” like questionnaires and screening

scales, Mot. Ex. 23 (Mojtabai JCCP Dep.) (ECF No. 2298-26) 240:17–19, he repeatedly conceded that he had performed no such validation of the screening scales used in the studies he relies upon. Mot. 41–42. Moreover, Plaintiffs nowhere address Dr. Mojtabai’s admissions that none of the studies assessed clinically significant symptoms, and that the studies assessing body dissatisfaction or disordered eating are not enough to diagnose an eating disorder or BDD. Mot. 42. In other words, data in the studies cannot substitute symptoms for an actual diagnosis. Nothing in Plaintiffs’ Opposition changes this.

c) Dr. Mojtabai’s Bradford Hill Analysis Improperly Lumps Together All Disorders and All Defendants.

Plaintiffs also do not adequately address the significant flaws in Dr. Mojtabai’s Bradford Hill analysis, which lumps together all psychiatric disorders and all Defendants. As to disorders, Plaintiffs seem to claim Dr. Mojtabai did a Bradford Hill analysis for each individual psychiatric disorder based on the mere fact that certain parts of his report analyze various disorders separately. Mot. 39–40; Opp. 48. But that argument is contradicted by Dr. Mojtabai’s own testimony—Dr. Mojtabai admitted he “[didn’t] do a Bradford Hill analysis specific to any of the outcomes”; instead, he put all outcomes together to conduct his analysis. Mot. Ex. 23 (Mojtabai JCCP Dep.) (ECF No. 2298-26) 598:15–18. The claim that Dr. Mojtabai’s Bradford Hill analysis “synthesizes” his findings on the disparate disorders analyzed are Plaintiffs’ words, not Dr. Mojtabai’s. *See* Opp. 48. Plaintiffs further fail to point to any scientific authority (much less federal case law) condoning grouping diverse symptoms to reach opinions about specific psychiatric disorders with different diagnostic criteria. That Plaintiffs allege “a wide range of mental and emotional harm” does not render this approach permissible. *See id.* (quoting *Soc. Media Cases*, 2025 WL 2807828, at *40 (Cal. Super. Ct. Sep. 22, 2025)). Under this flawed approach, an eating disorder such as Bulimia Nervosa can be used in litigation as “reliable” evidence for Major Depressive Disorder even though the DSM-5 sets out distinct diagnostic criteria for each. Applying a methodology that ignores the clinical findings needed for each disorder, instead throwing them all together, renders diagnostic criteria meaningless and leads to absurd results: allowing a plaintiff with one psychiatric disorder to sue for injuries when no data on that disorder exists. Plaintiffs fail to show this method’s reliability.

Plaintiffs also fail to justify Dr. Mojtabai’s combined Bradford Hill analysis of Defendants’ platforms. Plaintiffs argue this is acceptable because platforms share some common features, some

research “treats social media as a collective exposure,” and some people use multiple platforms. Opp. 49. But Dr. Mojtabai conceded at deposition that there is “not enough data” to address each individual platform. Mot. 40 (quoting Mot. Ex. 23 (Mojtabai JCCP Dep) (ECF No. 2298-26) 84:4–16). Having made that admission, Dr. Mojtabai cannot reliably perform a Bradford Hill analysis that covers all platforms. Plaintiffs must show *individual* liability, and Dr. Mojtabai’s testimony fails to provide “sufficient factual grounds” to support that showing. *Engilis*, 151 F.4th at 1051. Further, if there is “not enough data” to address each platform, Mot. 40, how can this method be reliably extrapolated to each platform? The Opposition never explains.

d) Dr. Mojtabai’s Opinions on Social Media Addiction/Problematic Use Are Unreliable.

Finally, Plaintiffs do not provide support for Dr. Mojtabai’s opinions about purported “social media addiction.” While Dr. Mojtabai claimed in his report that diagnostic criteria for social media addiction had been “widely accepted in the literature,” Opp. 49–50, he withdrew that opinion at deposition, admitting “there is no official diagnosis of social media addiction,” and no recognized diagnostic criteria. Mot. 42–43 (quotation marks omitted). Plaintiffs also never confront Dr. Mojtabai’s admission that he cannot say how much time using social media results in any of the adverse mental health outcomes he attributes to social media use. Mot. 43. And contrary to Plaintiffs’ claims, Dr. Mojtabai lacks “real world, clinical experience in diagnosing and treating patients with social media addiction.” Opp. 8. Dr. Mojtabai has never diagnosed *any* pediatric patients with social media addiction and could only say that he listed social media “overuse” or “addictive use” in two adult patients. Mot. Ex. 23 (Mojtabai JCCP Dep) (ECF No. 2298-26) 59:22–62:4. In sum, he provides no reliable, objective measures to define or assess “social media addiction/problematic use.”

6. Dr. Murray [PI/SD]

a) Dr. Murray’s Opinions Rely on Third-Party Content and Publishing.

Plaintiffs argue that Dr. Murray has shown that features rather than content cause harm because he mentions some features in his report and during his deposition. But Plaintiffs do not dispute that Dr. Murray’s deposition and report repeatedly make clear that third-party content is the primary driver for his opinions. *See* Opp. 51. Nor do Plaintiffs dispute that Dr. Murray’s testimony repeatedly focused on

features that his Court has held protected by Section 230; indeed, the Opposition doubles down on such testimony. *Id.* (referencing testimony regarding infinite scroll, algorithms, “likes,” and notifications). Yet Plaintiffs’ Opposition fails to set forth how Dr. Murray’s methodology separates out the impact of third-party content from the design features remaining at issue in this litigation. Plaintiffs cannot do so because Dr. Murray made no such attempt as to any of the alleged disorders he attributes to social media use. Dr. Murray’s reliance on what he calls “content agnostic” studies provides no safe harbor to save his opinions. “Content agnostic,” in Dr. Murray’s terms, simply means studies that analyzed all types of content rather than one specific variety. Ex. 44 (Murray MDL Dep.) (ECF No. 2298-47) 311:7–19. Aggregating the impact of multiple pieces of content does nothing to address Defendants’ Section 230 concerns.

b) Dr. Murray’s Opinions Are Not Accepted, Reliable, or Helpful.

(1) Dr. Murray’s causation methodology includes study designs that he admits cannot be used for causal inferences.

Like their arguments as to Dr. Mojtabai, Plaintiffs simply ignore Dr. Murray’s published statements that studies using a cross-sectional design “[do] not allow for inferences on causality.” Mot. 45. Nor do Plaintiffs address how the cross-sectional studies repeatedly state that they cannot be used for causal inferences. Plaintiffs also fail to identify any scientific authority that states cross-sectional studies can be used for causal inferences. While Plaintiffs suggest that cross-sectional studies were purportedly used to establish causation between lung cancer and smoking or lead poisoning and cognitive deficits, they fail to identify those sources. Opp. 11. The one source that they do cite, Sir Bradford Hill’s speech (Opp. Ex. 23 (ECF No. 2405-26)), does not even mention cross-sectional or correlational studies.⁷ In sum, Dr. Murray’s methodology deviates not only from his own out-of-court methodology but also the undisputed consensus among qualified experts. *See* Ref. Man. on Sci. Evid. at 560 (“Cross-sectional studies . . . do not determine the development of disease or risk of disease (incidence).”).

(2) Dr. Murray failed to identify studies reliably establishing a dose-response relationship.

⁷ The speech does reference observational studies. *See generally* Opp. Ex. 23 (ECF No. 2405-26). But there are different types of observational studies, including prospective and retrospective cohort studies (which can establish temporality), case-control studies (which may or may not do so), and cross-sectional studies (which cannot). *See* Ref. Man. on Sci. Evid. at 557–61.

Plaintiffs also cannot wave away Dr. Murray's failure to identify dose-response studies. Dr. Murray was specifically asked what he needed to establish cause and effect besides temporality, and in response, he pointed to a dose-response effect. Mot. 45–46. Plaintiffs fail to even acknowledge—much less explain away—this admission. Nor do Plaintiffs address how Dr. Murray either could not identify any studies showing a dose-response effect for specific disorders or could only identify cross-sectional studies for other disorders (which, as discussed above, cannot be used for causal inferences). *Id.* As for paragraph 233 of his Report referenced in the Opposition (Opp. 52), Dr. Murray confirmed that these studies are cross-sectional studies. Mot. Ex. 43 (Murray JCCP Dep.) (ECF No. 2298-46) 544:5–546:24. If Dr. Murray had either studies that support a dose-response effect as to specific disorders or were not cross-sectional as to others, Plaintiffs would have identified them. They did not.

(3) Dr. Murray failed to analyze individual eating disorders.

As with Dr. Mojtabai, Plaintiffs fail to identify any scientific support for the claim that causation for specific and different eating disorders can be determined by lumping them all together. Instead, Plaintiffs merely parrot Dr. Murray's own say-so. Opp. 52–53. Plaintiffs also fail to address a critical flaw in that methodology that Defendants highlighted: by analyzing the literature of possible eating disorder symptoms as a group, and then using that combined analysis to form causation opinions, Dr. Murray has no idea which of these symptoms are due to BN, Anorexia Nervosa (AN), or Binge Eating Disorder (which he opines are caused by social media use) and those which are from ARFID and OSFED (which he admits are not caused by social media use). *See* Mot. 47. Plaintiffs have no answer for how Dr. Murray's causation analysis accounts for either set of symptoms. This scientifically flawed approach explains why Dr. Murray cannot reliably ignore using the specific and distinct diagnostic criteria that he otherwise uses in his day-to-day work. *See* Opp. 52–53.

(4) Dr. Murray's flawed methodology relies on studies that never assessed diagnosed disorders and instead focused on self-reported screening scales or symptoms.

Plaintiffs do not dispute that no study on which Dr. Murray relies actually assessed AN or BN *diagnoses*. Similarly, Plaintiffs do not dispute that no study assessed psychiatric disorders as an endpoint or outcome measure. Plaintiffs claim that Dr. Murray “provided specific examples of studies that did consider diagnosed eating disorder outcomes.” Opp. 53. But the cited passages in Dr. Murray's MDL

deposition establish nothing of the sort. *See* Mot. Ex. 44 (Murray MDL Dep.) (ECF No. 2298-47) 219–32. Instead, Dr. Murray (while trying to evade answering the questions asked) admitted that the studies did not diagnose participants with psychiatric disorders. *See e.g., id.* at 221:16–222:4; 228:10–22; 235:6–236:25.⁸ Thus, Dr. Murray’s analysis relies *exclusively* on self-reported *symptoms* that may or may not be psychiatric disorders, as opposed to actual diagnosed disorders. Plaintiffs point to no support for using studies assessing symptoms to reach conclusions about diagnosed conditions. This is impermissible, not least because “[h]ypotheses are verified by testing, not by submitting them to lay juries for a vote.” *See In re Incretin-Based Therapies Prod. Liab. Litig. (In re Incretin)*, 524 F. Supp. 3d 1007, 1041 (2021), *aff’d* 2022 WL 898595 (9th Cir. Mar. 28, 2022). Again, neither Plaintiffs nor Dr. Murray identify any scientific study or analysis that shows that the screening scales or collection of symptoms in the studies are reliable substitutes for actual diagnoses –the claimed injuries in this litigation. Plaintiffs instead opt to ignore Dr. Murray’s (1) reliance material that says the exact opposite, Mot. 48 (discussing how “screening tools alone, such as SCOFF, is not sufficient for diagnosis” of eating disorders); and (2) admission that there is no test to predict who will or will not develop an eating disorder, *id.*

(5) Dr. Murray ignores evidence refuting his made-for-litigation science.

Dr. Murray cannot identify the longitudinal studies that he supposedly reviewed that show no association between use of social media and the outcomes that they assessed. Plaintiffs suggest that Dr. Murray “considered all the literature,” such as studies that Plaintiffs’ counsel hand-picked and identified for him in their questioning of him. Opp. 54. Rule 702 makes clear that Dr. Murray’s “bald assurance of validity is not enough.” *Sanderson*, 950 F. Supp. at 993. Further, the four cherry-picked studies presented to Dr. Murray by Plaintiffs’ counsel fail to support his opinions. *See* Mot. 49, n. 28. Notably, Dr. Murray never explains in his report why the existing longitudinal studies showing no association can be dismissed when reaching his causation opinions. *See id.* 49–50.

c) Dr. Murray’s Opinions Fail to Establish a Causal Nexus Between Each Alleged Harm and Each Defendant’s Platform and Design Features.

⁸ As Defendants noted, Plaintiffs’ own epidemiology expert, Dr. Mojtabai, admits that there is no such study. *See* Mot. 41–42.

1 Plaintiffs concede that Dr. Murray failed to conduct specific analysis as to each Defendant's
 2 platforms *and* whether each Defendant's platforms can cause the alleged mental health outcomes that he
 3 claims occurred. Opp. 54. Plaintiffs attempt to remedy this deficiency by pointing to a notebook of studies
 4 that Dr. Murray brought with him to the deposition, which he claimed addressed features of specific social
 5 media platforms. *Id.* But those studies all suffer from one or more of the same problems identified in
 6 Defendants' opening briefing. That Dr. Murray "extrapolated from the research measuring social media
 7 use broadly to each Defendants' [sic] platforms," is not a reliable methodology. *See McGlinchy v. Shell*
 8 *Chem.*, 845 F.2d 802, 807 (9th Cir. 1988) (exclusion upheld where "study rests on unsupported
 9 assumptions and ignores distinctions crucial to arriving at a valid conclusion").

10 **7. Dr. Telzer [PI/SD]**

11 **a) Dr. Telzer's Opinions Impermissibly Rely on Third-Party Content and** 12 **Protected Publishing Activity.**

13 Plaintiffs do not rebut that Dr. Telzer's opinion relies on content and protected publishing activity,
 14 nor do they dispute that the features that Dr. Telzer identifies as causing harm are inherently intertwined
 15 with third-party content. They point to alleged features that Dr. Telzer considered. But as with Dr.
 16 Lembke, Plaintiffs fail to address that this Court already held that *all* of the "features" cited in their
 17 Opposition—"infinite scroll, algorithmic content delivery, intermittent rewards (likes and notifications),
 18 and public performance metrics (follower counts, likes, comments)," Opp. 55—are protected publishing
 19 activity under Section 230 and cannot be the basis of liability. PI Order 83031 (ECF No. 430) (protected
 20 publishing activity includes infinite scroll, notifications, ephemeral content, algorithms).

21 Indeed, the only two studies Plaintiffs cite actually analyzed features that this Court has deemed
 22 *protected publishing activity*. *See id.* at 55 (citing Sherman 2016, which looked at the impact of "likes"
 23 and Maza 2023, which looked at the impact of notifications regarding content). Plaintiffs argue that the
 24 literature considered by Dr. Telzer is "agnostic" to content. Opp. 55–56. But that is precisely the problem.
 25 Because a "content-agnostic study," by definition, does not look at or control for the content study
 26 participants see, it is impossible to know from the study whether the purported results of studies she relied
 27 on—e.g., depressed mood—were caused by a platform feature or by the content seen by the participant.

28 **b) Dr. Telzer Lacks a Reliable Methodology for Her Causation Opinions.**

1 Plaintiffs also cannot dismiss Dr. Telzer’s differing conclusions inside and outside the courtroom
 2 by saying that those “contradictions” can be addressed by cross-examination. Those contradictions reflect
 3 that she is applying fundamentally different standards here in litigation than she would for purposes of
 4 good science. *Daubert*, 509 U.S. 579, 593 (1993). Indeed in her academic work and public talks,⁹ citing
 5 a lack of sufficient evidence, Dr. Telzer has eschewed the very conclusions she reaches here.¹⁰ That
 6 violates the fundamental requirement of Rule 702 that experts “must employ[] in the courtroom the same
 7 level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire*
 8 *Co. v. Carmichael*, 526 U.S. 137, 152 (1999).

9 Dr. Telzer’s disregard of the stated limitations of studies she relies on is a core sign of unreliability,
 10 and is grounds for exclusion. *See* Opp. 57; *Konrick v. Exxon Mobil Corp.*, 2016 WL 439361, at *6 (E.D.
 11 La. Feb. 4, 2016) (“[W]hen a study’s authors expressly disclaim the causal relationship that the expert
 12 relies upon the study to prove, the study likely does not provide a reliable basis for the expert’s opinion.”).
 13 Plaintiffs’ other attempts to justify Dr. Telzer’s opinions regarding correlation versus causation and
 14 cherry-picked literature amount to “post-hoc rationalization” “devoid of the intellectual rigor that *Daubert*
 15 demands.” *See Haller v. AstraZeneca Pharms. LP*, 598 F. Supp. 2d 1271, 1296-97 (M.D. Fla. 2009).

17 ⁹ Plaintiffs contend that Dr. Telzer’s prior statements were limited to “5-6 words.” Opp. 56. But a cursory
 18 glance at the record dispels this claim. *See, e.g.,* Mot. Ex. 61 (Burnell et al. (2025)) (ECF No. 2298-64) at
 19 195 (“[R]esearch examining associations between social media use and mental health remains
 20 inconclusive.”); Ex. 4, Nesi, Burnell et al. (Forthcoming 2025) at 19 (“Importantly, the results do not
 21 suggest a negative cyclical pattern, in which greater pickups were subsequently associated with poorer
 22 positive (or negative) mood. This is in contrast with popular narratives suggesting that smartphones are
 23 harming adolescents, and instead support some longitudinal research suggesting that poorer well-being
 24 may precede greater digital technology use.”); Ex. 5, Trekels et al. (2024) at 1, 7 (“Our findings revealed
 25 that there were no significant associations between digital social connection, digital pressure, and
 26 depressive symptoms 1 year later. . . . Nonetheless, this is consistent with a growing body of work finding
 27 null or weak associations between social media experiences and adolescents’ well-being.”); Mot. 53.

28 ¹⁰ Rather than address Defendants’ arguments, Plaintiffs cite the JCCP court’s opinion to imply that
 Defendants are misstating the record as to what Dr. Telzer has previously said. *See* Opp. 56. But the
 JCCP court faulted Defendants for a mis-citation: Defendants inadvertently attributed a statement by Dr.
 Telzer—that “prior literature . . . ha[s] not yet established some of the causal claims”—to a February 2025
 interview with Dr. Telzer, when in fact the second portion was from Dr. Telzer’s deposition *about* that
 February 2025 interview. *See* Mot. Ex. 57 (Telzer JCCP Dep.) (ECF No. 2298-60) 38:7–17. Defendants
 corrected that inadvertent error in their reply. But the fact remains that Dr. Telzer stated in February 2025
 that “causal data are largely unavailable,” *see id.* 38:7-10, which she said in her deposition was made “in
 the context of prior literature that had not yet established some of the causal claims,” *id.* at 13-17.

1 Finally, Plaintiffs claim that Dr. Telzer’s opinions must be admissible because they rely on the
 2 totality of the evidence. But reviewing the “totality of the evidence” does not excuse Dr. Telzer from
 3 shirking her own methodology outside the courtroom or using cross-sectional/correlational studies to
 4 support a causal inference. Dr. Telzer did both here, rendering her opinions unreliable under Rule 702.

5 **c) Dr. Telzer’s “Social Media Addiction” Opinions Are Speculative.**

6 Plaintiffs offer no real defense of Dr. Telzer’s opinions about “social media addiction.” They state
 7 only that recognition by the DSM-5 is not necessary and that Dr. Telzer’s novel seven-item questionnaire
 8 is not the “sole” basis for her opinions, Opp. 58, but they never identify any other “literature” that
 9 purportedly serves as the other basis. Plaintiffs do not address the fundamental problem in Dr. Telzer’s
 10 opinions: they have not been tested nor replicated, and they rely on speculative assumptions. Dr. Telzer
 11 ignored the DSM-5 *and* relied on an invented questionnaire that (a) has never been used by any other
 12 person, *see* Mot. Ex. 57 (Telzer JCCP Dep.) (ECF No. 2298-60) 367:5–20 (admitting questionnaire has
 13 only been used in publications she authored), and (b) borrows from substance-use frameworks even
 14 though “using substance-use frameworks to diagnose social media use as ‘addiction’ has been widely
 15 criticized and debated,” Mot. 55, despite (c) acknowledging after this litigation began that “additional
 16 research is needed before determining that problematic social media use can be appropriately given the
 17 ‘addiction’ label akin to substance use disorders.” Mot. Ex. 61 (ECF No. 2298-64) at 208.

18 **d) Plaintiffs Fail to Rebut Defendants’ Other Arguments.**

19 **First**, Plaintiffs fail to rebut that Dr. Telzer deprived Defendants of the opportunity to review the
 20 full dataset on which she relied. Dr. Telzer relied on unpublished data from a study about students’ daily
 21 cellphone use in forming her opinions, including to generate certain charts in her expert report. *See* Mot.
 22 Ex. 65 (Telzer Rebuttal Rep.) (ECF No. 2298-68) App’x 2 (providing “Figures in original Telzer report
 23 that included data that has not yet been published”). Plaintiffs do not dispute that Dr. Telzer selected
 24 *portions* of her lab’s full dataset from certain phases of the study to craft these made-for-litigation charts.
 25 *See* Opp. 59 (claiming only that Dr. Telzer produced the “underlying data *for these figures*” (emphasis
 26 added)). Because her opinions rely on her lab’s raw data, she was required to produce the underlying data
 27 in full. *See* Mot. 56. Dr. Telzer’s complete dataset may contradict her cherry-picked “descriptive figures.”
 28 Opp. 59. But, without the full dataset, Defendants were not sufficiently able to “question Dr. Telzer about

her school opinions and the basis for them,” *id.*, or test those opinions using her full dataset. *See* Mot. 56. Without that data and those opinions, Defendants could not rebut those portions of Dr. Telzer’s opinions.

Second, Plaintiffs cannot save Dr. Telzer’s naked opinion as to YouTube. *See* Mot. Ex. 65 (Telzer Rebuttal Rep.) (ECF No. 2298-68) ¶ 132. Defendants’ Motion showed that she actually had “no basis for her opinion,” not just that she could not name a supporting study. Mot. 56–57. Plaintiffs only response is claiming Dr. Telzer did not have adequate time to “name a study [addressing YouTube] off the top of her head” at deposition. Opp. 58. But Dr. Telzer cited only a *single* Common Sense Media Report in support of her YouTube-specific opinion. Mot. Ex. 65 (Telzer Rebuttal Rep.) (ECF No. 2298-68) ¶ 132 & n.121. That report does not support her YT-specific opinion. *See* Mot. 57. Plaintiffs purport to identify supporting studies, but Dr. Telzer (the purported expert offering the opinion) has never mentioned them.¹¹

Third, Dr. Telzer treats all of Defendants’ platforms as a monolith, undermining her causation opinions. Plaintiffs claim that Dr. Telzer’s reports “directly address specific features of Defendants’ platforms.” *See, e.g.*, Opp. 62–63. But throughout both reports, Dr. Telzer repeatedly generalizes about the purported effects of social media, treating an entire online ecosystem as an indivisible whole, rather than distinguishing among Facebook, Instagram, TikTok, Snapchat, YouTube, and non-party platforms. *See, e.g.*, Mot. Ex. 56 (Telzer Rep.) (ECF No. 2298-59) ¶ 123; Mot. Ex. 65 (Telzer Rebuttal Rep.) (ECF No. 2298-68) ¶ 67 (“Taken together, these findings suggest that the features of social media platforms . . . play[] a causal role in shaping adolescent mental health outcomes.”). Generalized opinions that lump all platforms together based on allegedly shared “features” do not satisfy Plaintiffs’ burden.

Finally, Dr. Telzer’s reliance on internal company documents is unscientific and unreliable. *See, e.g.*, Mot. Ex. 57 (Telzer JCCP Dep.) (ECF No. 2298-60) 92:1–12; Mot. Ex. 58 (Telzer MDL Dep.) (ECF No. 2298-61) 141: 9–19. Plaintiffs claim Dr. Telzer’s reliance is “consistent with her academic practice, where she routinely reviews industry-funded research.” Opp. 61. But the documents on which Dr. Telzer relies go far beyond research and include internal chats, emails, strategy decks, and other similar

¹¹ Plaintiffs’ Opposition attached five studies allegedly about to YouTube. *See* Opp. 60. Dr. Telzer did not cite any of these studies in either of her reports, mention them in her deposition, or submit a declaration with Plaintiffs’ Opposition that these are the studies she was relying on. Plaintiffs and their counsel cannot back-fill in briefing what *Dr. Telzer* never mentioned. *See In re Incretin*, 524 F. Supp. 3d at 1037 n.13.

documents. Further, even to the extent that Dr. Telzer relies on internal user-experience research by Defendants, that research is not similar to the “industry-funded research” with which she is familiar; indeed, Dr. Telzer admitted she does “*not* typically review corporate documents in [her] academic work.” Mot. Ex. 57 (Telzer JCCP Dep.) (ECF No. 2298-60) 125:15–21, 628:15–18. In any event, regurgitating documents the jury can read for themselves is not “expert” opinion. *See, e.g., United States v. Pac. Gas & Elec. Co.*, 2016 WL 1640462, at *2 (N.D. Cal. Apr. 26, 2016) (“expert testimony ‘must be directed to matters within the witness’ scientific, technical, or specialized knowledge and not to lay matters which a jury is capable of understanding and deciding without the expert’s help’”).

8. Dr. Twenge [PI/SD, AG]

a) Dr. Twenge Fails to Focus on Non-Protected Features.

Dr. Twenge’s own testimony demonstrates she cannot reliably attribute any alleged injuries to Defendants’ non-protected activities and, indeed, did not even attempt to do so. *See* Mot. 60; *see generally* Sec. 230 Mot.; Sec. 230 Reply. Plaintiffs seek to turn her lack of rigor to their advantage by arguing that her *lack* of analysis of either features or content means that her “opinions do not rest on” either, and therefore somehow support causation on any theory. Opp. 62. But merely focusing on “time spent,” *id.*, without looking at what that time is spent doing or why users are spending that time, does nothing to support Plaintiffs’ claim that their harm was caused by *non*-protected conduct. Hedging, Plaintiffs also point to off-hand comments by Dr. Twenge to the extent that she suspects time spent will be “driven by the features,” *see id.*, but she does not offer, and expressly disclaimed, *any* expert opinion that specific features could increase time spent on social media, Mot. Ex. 73 (Twenge MDL Dep.) (ECF No. 2298-77) 146:8–13. Nor do even these stray comments suggest any ability to attribute time spent to *non-protected* features specifically, *see id.* 132:7–12 (speculating that “an algorithm” may “lead teens to spend more time on social media”). That leaves only Dr. Twenge’s unreliable opinion that social media use—which necessarily includes viewing third-party content—somehow causes the alleged harms that she describes.

b) Plaintiffs Cannot Justify Dr. Twenge’s Flawed Bradford Hill Analysis.

Plaintiffs cannot meaningfully defend Dr. Twenge’s Bradford Hill analysis for several reasons. *First*, Plaintiffs offer no coherent defense of Dr. Twenge’s failure to explain the weight she assigned to the different criteria in her Bradford Hill analysis. *See* Mot. 61–62. They do not (and cannot) dispute that

1 federal courts consistently exclude Bradford Hill causation opinions where—as here—an expert fails to
 2 explain how she weighed the evidence and criteria. *See* Mot. 61–62; Opp. 65. Instead, Plaintiffs assert
 3 Dr. Twenge’s report is “[u]nlike [the reports] in the cases Defendants cite” because her report “centrally
 4 relies on the ‘specificity’ (Opp. Ex. 75 (Twenge Rep.) (ECF No. 2405-78) ¶ 100), ‘strength of the
 5 association’ (¶¶ 95–98), ‘consistency’ (¶ 99), ‘temporality’ (¶ 101), and ‘experiment’ (¶ 106) criteria.”
 6 Opp. 65. This claim is bare lawyer argument. Dr. Twenge never said in her reports or deposition that she
 7 “centrally relies” on these criteria, just as she never explained how she weighed them. *See, e.g.*, Opp. Ex.
 8 75 (Twenge Rep.) (ECF No. 2405-78) ¶¶ 94-107. Plaintiffs’ *post hoc* re-engineering confirms she failed
 9 to “explain the weight that [s]he attaches to any of the Bradford Hill criteria or address the relationship
 10 among them.” *In re Mirena Ius Levonorgestrel-Related Prods. Liab. Litig. (No. II)*, 341 F. Supp. 3d 213,
 11 248 (S.D.N.Y. 2018), *aff’d*, 982 F.3d 113 (2d Cir. 2020) (per curiam). This alone warrants exclusion.¹²

12 *Second*, recognizing flaws in Dr. Twenge’s Bradford Hill analysis, Plaintiffs concoct an alternative
 13 causal methodology in their Opposition. As Plaintiffs describe it, “Dr. Twenge employed [another] distinct
 14 methodolog[y] in her report” by “conduct[ing] a review of relevant literature.” Opp. 61. As an initial
 15 matter, Dr. Twenge stated expressly that her causation opinions are based on a Bradford Hill analysis,
 16 without identifying an alternative methodology: “I review[ed] the totality of the above evidence [the
 17 literature] for causality between social media use and mental health *using the Bradford Hill criteria*[.]”
 18 Opp. Ex. 75 (Twenge Rep.) (ECF No. 2405-78) ¶ 23 (emphasis added). Plaintiffs cannot escape Dr.
 19 Twenge’s defective Bradford Hill analysis by pointing to some unexplained methodology for her opinions.

20 Regardless, Dr. Twenge’s supposedly “distinct” methodology would be even more flawed than
 21 her Bradford Hill analysis. To reliably opine on general causation, an expert must explain how scientific
 22 principles establish a causal relationship; it is not enough to review literature. Fed. R. Evid. 702. The
 23 approach suggested by Plaintiffs, *see* Opp. 61, would render Rule 702 a nullity. And *Hardeman* does not
 24 hold that “review of relevant literature” alone is a “reliable methodology” for a general causation expert,
 25

26
 27 ¹² Plaintiffs insist it does not matter that Dr. Twenge’s cursory Bradford Hill analysis parrots a Bradford
 28 Hill “primer” prepared by another of Plaintiffs’ experts that she saw on Substack earlier this year—the
 first time she ever heard of Bradford Hill—because she is “qualified.” Opp. 64–65. But the issue is not
 Dr. Twenge’s qualifications; it is her failure to follow basic requirements of Bradford Hill methodology.

as Plaintiffs argue. *See id.* (citing *Hardeman v. Monsanto Co.*, 997 F.3d 941, 967 (9th Cir. 2021)). The portion of the opinion Plaintiffs cite concerns *specific* causation. *See Hardeman*, 997 F.3d at 967. A *general* causation expert applying a “weight of the evidence” methodology to the literature must identify objective criteria and “rigorously explain how they have weighted the[m];” otherwise such a methodology is “virtually standardless.” *In re Incretin*, 524 F. Supp. 3d at 1043; *see, e.g., Konrick v. Exxon Mobil Corp.*, 2016 WL 439361, at *13 (E.D. La. Feb. 4, 2016) (“Without any explanation of [the expert’s] methodology or application of her analytical methods to the literature, the report does not provide a reliable basis for [her] opinion.”), *aff’d*, 670 F. App’x 222 (5th Cir. 2016) (per curiam). Even if she employed the “literature review” methodology, Dr. Twenge fails to conduct the required analysis. *See* Mot. 61.¹³

c) Plaintiffs Fail to Show Reliability of Dr. Twenge’s Causal Analysis.

First, Plaintiffs contend Dr. Twenge’s single causation analysis, lumping together myriad mental health measures together under the “umbrella” outcome of “low psychological wellbeing,” is “unlike” the transdiagnostic causation analyses rejected as unreliable in *Acetaminophen* because Dr. Twenge purportedly combines “specific, highly-correlated injuries.” Opp. 66. But as the *Acetaminophen* court explained, studies making “the observation that ASD [autism spectrum disorder] and ADHD [attention hyper-deficit disorder] share some symptoms and are sometimes co-morbidities” did not support

¹³ Dr. Twenge’s causal analysis does not “mirror[]” a paper she authored with a “similar but more conclusive assessment.” Opp. 63. Dr. Twenge fails to bridge the gap between her conclusion in that 3.5-page paper—that “the *technological environment* is a *plausible cause* of the decline in [adolescent] well-being” between 2011–18, Opp. Ex. 77 (Twenge Article) (ECF No. 2405-80) 93 (emphasis added)—and her assertion here that there is “a *clear causal path* from *social media use* to low psychological well-being in adolescents, as all the Bradford Hill criteria for establishing causality are met,” Opp. Ex. 75 (Twenge Rep.) (ECF No. 2405-78) ¶ 7 (emphasis added). Dr. Twenge repeatedly conceded that she cannot determine what portion of the purported decline in adolescent mental health measures was caused by social media rather than smartphones or other aspects of the “technological environment.” *See* Mot. 65–66 (citing testimony). Contrary to Plaintiffs’ contention (Opp. 67–68), neither *Wisk Aero LLC v. Archer Aviation Inc.*, 2023 WL 3919469, at *5 (N.D. Cal. June 9, 2023), nor *In re Toy Asbestos*, 2021 WL 1167638, at *3 (N.D. Cal. Mar. 26, 2021), absolves Dr. Twenge’s admitted inability to quantify portions of harms purportedly caused by social media. Neither case involves the reliability of general causation opinions, or using ecological or time-series data to form them. *Wisk Aero LLC*, 2023 WL 3919469, at *5 (assessing sufficiency of evidence for defamation, tortious interference claims); *In re Toy Asbestos*, 2021 WL 1167638, at *4 (assessing opinion under California’s unique specific causation standard “required in asbestos-related cases”).

“conducting a single causal analysis,” nor did the fact “that ASD and ADHD are both categorized as [neurodevelopmental disorders].” *Id.* at 340, 366. Put simply, “the diagnostic criteria of the two disorders are undeniably distinct,” and “[a] child may suffer from both disorders, from only one, or from neither.” *Id.* at 340. This foundational defect applies with greater force to the broad range of disorders, symptoms, and characteristics within Dr. Twenge’s “umbrella” causal analysis (e.g., “life satisfaction,” “happiness,” “depression,” “anxiety,” “loneliness,” “self-esteem,” “self-harm,” and “suicide”).¹⁴ Such an approach would improperly dilute not only distinct psychiatric disorders but also a plaintiff’s burden of proof.

Second, Plaintiffs also offer no meaningful response to Dr. Twenge’s admissions revealing that the self-reported screening scales in the studies are not the equivalent or a reliable substitute for clinical diagnoses of the specific disorders at issue. *See* Mot. 63 (citing Mot. Ex. 74 (Twenge JCCP Dep.) (ECF No. 2298-77) 128:4–130:7); Opp. 13–14, 66. The passages of Dr. Twenge’s deposition that Plaintiffs cite to suggest otherwise, Opp. 13, provide no data or analysis whatsoever to support that claim. Nor can she rely on clinical experience because she has none. *See* Mot. Ex. 74 (Twenge JCCP Dep.) (ECF No. 2298-77) 61:1–17.

Third, Plaintiffs ignore Dr. Twenge’s shifting definition of “social media use” and the resulting unreliability pervading her analysis. *See* Mot. 64–65. They erroneously assert Defendants’ argument “rests upon . . . Dr. Twenge’s testimony on a particular study.”¹⁵ Opp. 67. In fact, Dr. Twenge admitted the inconsistent definition of “social media use” meant that not all portions of her report would apply to all platforms, but it was “hard to say” which would apply to which. *See* Mot. 64–65. Plaintiffs’ complete

¹⁴ The figures in Dr. Twenge’s report that Plaintiffs cite to support their assertion that Dr. Twenge’s disparate outcomes are “specific, highly-correlated injuries,” Opp. 66 (citing Opp. Ex. 75 (Twenge Rep.) (ECF No. 2405-78) Figs. 1, 2, 4–6, 10–11, 14–16), are not reliable, scientific analysis supporting that assertion. Plaintiffs fail to explain how Dr. Twenge’s bare assertion that “generally speaking,” some of these measures “correlate pretty highly with each other,” and “most of the time” are “fairly similar, if not really similar,” Opp. 66 (quoting Mot. Ex. 74 (Twenge JCCP Dep.) (ECF No. 2298-77) 119:12–120:9), is anything other than *ipse dixit*.

¹⁵ Defendants’ argument does not “mischaracteriz[e]” Dr. Twenge’s testimony regarding the only study she reviewed that addressed use across specific platforms. She squarely admitted that study properly concluded “the impact of social media is . . . platform specific.” Mot. 65 (quoting Ex. 74 (Twenge JCCP Dep.) (ECF No. 2298-77) 449:19–450:15). Dr. Twenge’s claim that she would like “to see this replicated maybe a few more times and see more studies to be more confident,” Opp. 67, is irrelevant since she cites no studies to support her approach of treating “social media” as an indistinguishable monolith.

1 failure to address this argument, *see* Opp. 66–67, confirms the infirmity.

2 **9. Dr. Hoover [SD-only]**

3 **a) Dr. Hoover Cannot Opine on Purported Harms to Students.**

4 As an initial matter, the Court should exclude Dr. Hoover’s opinions that social media harms
 5 students because Plaintiffs’ Opposition disclaims any such opinions, and instead defends only her opinions
 6 that social media harms *schools*. Attempting to explain away Dr. Hoover’s failure to conduct a Bradford
 7 Hill analysis, Plaintiffs argue that “other Plaintiff experts . . . employed a Bradford-Hill analysis because
 8 they offer opinions on Defendants’ platforms causing mental health harms to young people.” Opp. 74. In
 9 contrast, Plaintiffs assert, Dr. Hoover did not need a Bradford Hill analysis “to support *her* opinions on
 10 harm to *schools*.” *Id.* (emphases in original). Plaintiffs’ statements conflict with Dr. Hoover’s reports,
 11 which opine that social media harms students. *See, e.g.,* Mot. Ex. 80 (Hoover Rep.) (ECF No. 2298-83)
 12 ¶ 35; *id.* at ¶ 123 (“it is my opinion . . . that student social media use has had—and continues to have—a
 13 profound and detrimental impact on school districts, schools, the school environment, *and students’*
 14 *mental health and learning*” (emphasis added)). Because Plaintiffs disclaim Dr. Hoover’s opinions about
 15 harms to students, the Court should exclude those opinions. *See Aya Healthcare Servs., Inc. v. AMN*
 16 *Healthcare, Inc.*, 613 F. Supp. 3d 1308, 1323 (S.D. Cal. 2020) (“[Plaintiff’s] failure to oppose the *Daubert*
 17 motion on this issue constitutes a waiver or abandonment in regard to this uncontested issue.”).

18 **b) Dr. Hoover Did Not Evaluate Defendants’ Actionable Conduct.**

19 Plaintiffs make four arguments to attempt to show that Dr. Hoover evaluated Defendants’
 20 actionable conduct in reaching her opinions about purported harms to schools. Each fails.

21 *First*, Plaintiffs contend that Dr. Hoover “considered the opinions of other experts who opined that
 22 Defendants’ platforms have caused the relevant harms to students.” Opp. 70. But Dr. Hoover cannot base
 23 her opinions on other experts’ opinions. An expert may not “merely parrot[] the opinions and conclusions
 24 of another expert whose testimony is now shielded from cross-examination.” *Cholakyan v. Mercedes-*
 25 *Benz, USA, LLC*, 281 F.R.D. 534, 544 (C.D. Cal. 2012) (collecting cases). While an expert may
 26 “appropriately rely on the opinions of others if other evidence supports his opinion and the record
 27 demonstrates that the expert conducted an independent evaluation of that evidence,” *id.*, the record
 28 demonstrates that Dr. Hoover *did not* conduct “an independent evaluation of” the evidence other experts

1 relied upon. *See* Mot. Ex. 79 (Hoover Dep.) (ECF No. 2298-82) 153:14–154:1 (admitting she relied on
 2 other experts to “do a deeper dive into” features); *id.* at 362:15–21 (stating she considered only “some of
 3 the articles that some of” those experts included in their reports but would “generally . . . rely on the
 4 opinions of those experts.”). Dr. Hoover cannot avoid the consequences of her own failure to consider
 5 Defendants’ actionable conduct by pointing to other experts’ consideration of that conduct.

6 *Second*, Plaintiffs argue Dr. Hoover cited studies that “specifically call out Defendants’ platforms.”
 7 Opp. 70. While she cited studies that involved Defendants’ platforms, she did not rely on any studies that
 8 actually examined whether Defendants’ *actionable* conduct (as opposed to general use of one of
 9 Defendants’ platforms) can cause harms. *See* Opp. 70 & n.20 (citing studies addressing one or more of
 10 “Defendants’ platforms,” none of which examines Defendants’ actionable conduct). Plaintiffs do not
 11 purport to identify any studies she relied on that examine that question. *See id.*

12 *Third*, Plaintiffs assert that “Dr. Hoover’s reports contain numerous references to both Defendants’
 13 platform design as a whole and to specific features as the cause of the harms to the school districts.” Opp.
 14 70. But the report paragraphs they cite only prove Defendants’ point that Dr. Hoover failed to consider
 15 Defendants’ *actionable* conduct. Take paragraph 55 (cited at Opp. 70), where she states that school
 16 lessons are undermined “by algorithmically optimized feeds of content from platforms like TikTok and
 17 Instagram.” Opp. Ex. 78 (Hoover Rep.) (ECF No. 2405-81) ¶ 55. This Court has already ruled that
 18 Plaintiffs cannot impose liability based on Defendants’ use of algorithms to publish content. *See* ECF No.
 19 2292 (Omnibus Section 230 *Daubert* Motion) § II.A. Moreover, despite Dr. Hoover’s occasional
 20 references to irrelevant features, she admitted she did not “look[] at all of the specific features across every
 21 platform and the distinctions between them” and did not consider “the details of each of the defendant
 22 platforms’ features.” Mot. Ex. 79 (Hoover Dep.) (ECF No. 2298-82) 153:14–154:1.

23 *Fourth*, Plaintiffs point to Dr. Hoover’s *ipse dixit* statements at her deposition that social media
 24 harms school districts regardless of content. Opp. 71. Even if these bald assertions were admissible, they
 25 are generalities about cell phone and social media use, not connected to Defendants’ actionable conduct.
 26 *Id.* (citing testimony that “regardless of the content, it is that compulsive checking of the phones, the social
 27 media platforms” and “it’s often just the process of engagement of our young people”).

28 **c) Dr. Hoover Offers No Reliable Methodology for Drawing Causation**

Conclusions.

Plaintiffs’ Opposition attempts to defend Dr. Hoover by retroactively inventing a methodology she did not use. Dr. Hoover’s expert report has a section titled “Methodology.” Mot. Ex. 80 (Hoover Rep.) (ECF No. 2298-83) ¶¶ 25–29. That section invokes Dr. Hoover’s general reliance on her “training” and “experience,” as “informed by scientific literature on the subject.” *See id.* The section does not identify any framework Dr. Hoover used to draw causal conclusions. Plaintiffs’ Opposition creates a framework that Dr. Hoover did not herself provide: five “commonly accepted principles” that they say are used in Dr. Hoover’s “field to determine when an observed association is likely to reflect a causal relationship,” and identify paragraphs of Dr. Hoover’s report that they say demonstrate her application of these principles. Opp. 72–73. Plaintiffs do not cite any source for their assertion that these are five “commonly accepted principles” in any field, but the principles generally appear to be paraphrased and/or modified versions of certain of the nine criteria for the Bradford Hill methodology—a methodology they admit she did not use. *Compare* Opp. 72–73 (listing five “principles”), *with In re Mirena IUS Levonorgestrel-Related Prods. Liab. Litig. (No. II)*, 387 F. Supp. 3d 323, 347 n.5 (S.D.N.Y. 2019) (listing Bradford Hill criteria), *aff’d*, 982 F.3d 113 (2d Cir. 2020). Plaintiffs’ attempt to invent a methodology for Dr. Hoover and save her opinions from exclusion fails for four reasons.

First, Plaintiffs cite no support for the notion that this truncated, modified Bradford Hill analysis is a reliable methodology—not in Dr. Hoover’s report, any external source, or case law. *See* Opp. 72–73. *Second*, Plaintiffs do not show that Dr. Hoover actually evaluated the available scientific evidence using these principles, nor did Dr. Hoover explain how she applied these principles to the evidence or how she weighed the evidence relating to these principles to reach her conclusions. *See In re Mirena*, 387 F. Supp. 3d at 348 (“where an expert fails to rigorously explain how he or she has found or weighted the Bradford Hill criteria,” his or her opinions should be excluded); Mot. Ex. 79 (Hoover Dep.) (ECF No. 2298-82) 261:21–262:16 (admitting she did not weigh any of the Bradford Hill criteria). *Third*, Plaintiffs’ post-hoc suggestion that Dr. Hoover applied these five principles is not supported by the report paragraphs that they cite. For example, Plaintiffs’ first “principle” is “how the rise in student social-media engagement preceded and paralleled the increase in mental-health and learning disruptions observed in schools.” Opp. 72 (citing Opp. Ex. 78 ¶¶ 48, 54–57, 61, 69, 70, 72). But the cited paragraphs do not specifically evaluate

whether the evidence shows the cause preceding the effect. *See, e.g.,* Opp. Ex. 78 (Hoover Rep.) (ECF No. 2405-81) ¶ 48 (describing study finding simultaneous changes in “digital media consumption” and “in-person social engagement”). *Fourth*, even if Dr. Hoover had applied the methodology Plaintiffs incorrectly attribute to her—and even if that methodology were reliable—her opinions would still fail to satisfy Rule 702 because she did not apply that methodology to Defendants’ actionable conduct. Fed. R. Evid. 702(d) (proponent of expert must show that “the expert’s opinion reflects a reliable application of the principles and methods *to the facts of the case*” (emphasis added)).

Because Dr. Hoover has not disclosed or applied a reliable methodology for showing causation rather than association, her general causation opinions should be excluded.

C. Plaintiffs’ Remaining Non-Retained Expert, Mr. Arturo Béjar, Should Not Be Permitted to Offer General Causation Opinions on Meta’s Platforms [PI/SD, AG]¹⁶

Plaintiffs have withdrawn certain language from Mr. Béjar’s opinions on general causation but have not withdrawn all of it. Mr. Béjar is not qualified to provide general causation opinions as to any mental health harm or as to wellbeing, and he should be precluded from doing so. Plaintiffs admit they are not offering Mr. Béjar “as an expert witness as to ‘harms associated with Meta’s platforms, including addiction/problematic use, anxiety, depression, eating disorders, body dysmorphia, suicidality, self-harm, and sexualization,’” Opp. 96, but at the same time claim that he should be permitted to offer opinions about those very subjects. For example, Plaintiffs defend Mr. Béjar’s opinions that “Instagram’s features *lead* to addictive or problematic use” and that Instagram was “designed to *cause* addictive or problematic use.” Opp. 95. This Court should issue a clear ruling: Mr. Béjar cannot offer testimony about any causal relationship between Meta’s platforms and mental health harms—regardless of any wordsmithing.

Plaintiffs rely extensively on Judge Kuhl’s ruling on Defendants’ *Sargon* motions in the JCCP, claiming that Defendants chose not to challenge some of Mr. Béjar’s opinions, but they misunderstand the scope of opinions Judge Kuhl’s ruling addressed. Judge Kuhl’s ruling prematurely addressed the

¹⁶ Plaintiffs have withdrawn Ms. Lotte Rubaek as an expert, and Plaintiffs’ Opposition makes clear that they intend to have Mr. Béjar testify only about Meta’s platforms. Opp. 93. Mr. Béjar should therefore be barred from offering any opinions as to the non-Meta Defendants. To the extent Mr. Béjar attempts to do so, that would be plainly improper in light of his lack of experience with the non-Meta Defendants and for all of the other reasons stated above.

admissibility of Mr. Béjar’s opinions regarding whether the design of Meta’s platforms encouraged problematic use. *See* Mot. 74. But Defendants had not yet briefed this issue in accordance with the schedule Judge Kuhl ordered (to address design-related opinions in a later phase). Defendants’ subsequent motion to exclude those opinions of Mr. Béjar’s was denied. Ex. 6 (Ruling on Mot. to Exclude Non-Causation Opinions of Arturo Béjar) 3 (holding that Mr. Béjar may testify that “certain design features . . . can lead to ‘excessive use’” but may not testify that “use of social media platforms leads to certain mental health problems.”). However, Mr. Béjar’s opinions that “Meta’s platforms were designed to and in fact do encourage ‘excessive use’” is just another way of articulating the same type of general causation opinion Judge Kuhl found Mr. Béjar unqualified to provide. Mot. Ex. 2 (*Sargon* Order) 33 (holding that Mr. Béjar may only testify “as to his observations” as they are “percipient, not expert testimony.”).

1. Mr. Béjar Is Not Qualified to Offer Opinions on General Causation.

Mr. Béjar’s claimed “30 years” of experience “in digital platform safety and security,” Opp. 94, is devoid of any tools or research concerning addiction or problematic use. Plaintiffs do not state otherwise. Citing to his deposition testimony, Plaintiffs list several areas in which Mr. Béjar claims to have experience: “systems to address ‘grooming’ of children by sexual predators, child pornography, and other child endangerment issues;” age verification; parental verification; bullying and harassment; suicide and self-injury, and user reporting. Opp. 94. Notably, problematic use and “addiction” are not included in Plaintiffs’ list. Plaintiffs also cite the disclosure of Mr. Béjar as an expert witness for the proposition that he will testify that Meta designed its platforms to facilitate or to “cause addictive or problematic use.” Opp. 93, 95 (citing Opp. Ex. 92 (May 16, 2025, Non-Retained Expert Disclosures) (ECF No. 2405-95)). But Plaintiffs’ disclosure merely references the same descriptions of Mr. Béjar’s purported experience that Defendants questioned him about at deposition; it is not independent evidence of Mr. Béjar’s experience. Despite lacking credentials relevant to general causation opinions, Mr. Béjar neither relies on other Plaintiffs’ experts nor reports “serious engagement with the relevant literature” to form his opinions. *See In re Roundup Prods. Liab. Litig.*, 737 F. Supp. 3d 893, 895 (N.D. Cal. 2024). Mr. Béjar has no “special knowledge, skill, experience, training, [or] education” in platform design or problematic use, much less whether Instagram may cause or encourage problematic use. Fed. R. Evid. 702.

Plaintiffs list questions Mr. Béjar “tackled” but do not explain how he did so or what he concluded.

Opp. 95. When Defendants asked about his experience, he explained he had not done any medical study on “whether a behavior is problematic or indicative of addiction,” and had not been hired to determine whether someone was “addicted” to any substance or product. Mot. Ex. 89 (Béjar MDL Dep.) (ECF No. 2298-92) 836:23–837:23; 838:24–839:3. When Mr. Béjar returned to Meta as a contingent worker, he had exposure to only two surveys, NES and BEEF, neither of which addresses how problematic use manifested on the platform, what features could address problematic use, or how such features might be built. *See, e.g., id.* 120:2–10 (listing “bullying and harassment, nudity and sexual content, inauthentic engagement, [and] misinformation” as the subject of NES); 432:8–20 (agreeing that the BEEF survey did not ask *any questions* about “addiction or problematic use.”). When Plaintiffs asked Mr. Béjar whether he believed Instagram “can cause addiction,” he said he did, based on having “read things,” “talked to people that are sort of survivors,” and experiences with his daughter’s use. Mot. Ex. 89 (Béjar MDL Dep.) (ECF No. 2298-92) 139:10–12, 140:24–141:6 (“And it was really painful to try and get her to put the phone away at dinnertime.”). The “things” he read included public reports “of addiction and kids . . . experiencing harm out of the time” spent on Meta’s platforms. *Id.* 96:18–21. Mr. Béjar is not “eminently more qualified than a layperson on the jury to assess” those things; any parent could read the news and converse with their own child or other parents. *See United States v. Finley*, 301 F.3d 1000, 1010 (9th Cir. 2002). Moreover, any experience Mr. Béjar has in safety, *see* Opp. 94, is inapplicable to problematic use. *E.g., United States v. Chang*, 207 F.3d 1169, 1171–74 (9th Cir. 2000) (“[P]ractical experience in international finance’ did not amount to practical experience” identifying counterfeit securities.).

2. Mr. Béjar’s “Methodology” Is Unreliable.

The methodology Mr. Béjar used to arrive at his opinion that “Instagram’s features lead to addictive or problematic use” is unreliable under Rule 702. As discussed, Mr. Béjar does not possess the experience necessary to base his opinions exclusively on his experience. Opp. 96. And apart from his experience, Mr. Béjar has no rigorous methodology that he can fall back on to support his opinions.

Even in cases where experts offer “experience-based testimony,” the court considers how often the “experience-based methodology has produced erroneous results, or whether such a method is generally accepted in the relevant” industry. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 151 (1999). Plaintiffs point to a recent report Mr. Béjar co-authored as “validation” for Mr. Béjar’s findings and methodology,

1 *see* Opp. 98; Opp. Ex. 98 (Fairplay Rep.) at 77. But Mr. Béjar’s own publication is not an independent
 2 validation, much less proof of “general acceptance.” *See States v. Chavez*, No. 15-CR-00285-LHK-1,
 3 2021 WL 5882466, at *5 (N.D. Cal. Dec. 13, 2021) (finding general acceptance of firearm identification
 4 method by use of “209 accredited labs in the United States” and labs worldwide); *Campbell ex rel.*
 5 *Campbell v. Metro. Prop. & Cas. Ins. Co.*, 239 F.3d 179, 186 (2d Cir. 2001) (finding “widely accepted”
 6 an “air-lead-criteria document published by the EPA” and used “nationally by departments of health”).

7 Moreover, the Fairplay Report itself indicates that “scenario testing”—what Mr. Béjar seeks to
 8 opine to the jury about—“cannot tell us about how frequently the risks are exploited in practice,” and does
 9 not indicate “the frequency with which teens experience different kinds of harm.” Opp. Ex. 98 (Fairplay
 10 Rep.) at 17. As with Mr. Béjar’s first round of testing, Mot. 75, the Fairplay Report could at most indicate
 11 whether a “feature or tool . . . was currently functioning as described in Meta’s public materials and if it
 12 was resistant to circumvention.” *Id.* at 16. The Fairplay Report’s testing “makes no measurements of the
 13 frequency of harmful experiences or content being shown through algorithmic feeds,” and the focus of the
 14 report was not “to measure the broader prevalence of harm on [Meta’s] platforms.” *See* Opp. Ex. 98
 15 (Fairplay Rep.) at 17. Nor did the testing involve actual users; it used “controlled test accounts or
 16 ‘avatars’” selectively “configured to reflect the adversary models designed in *our*”—i.e., the report
 17 authors—chosen “framework.” *Id.* Tellingly, the report uses the words “addicted,” “addictive,” or
 18 “addiction” only four times, without any citation to support the existence of social media addiction. *See*
 19 *generally* Opp. Ex. 98. Mr. Béjar’s general causation opinions rely on nonexistent industry experience
 20 and a testing methodology that is plainly incapable of supporting causal conclusions about Meta’s
 21 platforms. His opinions should be excluded.

22 **D. The State AGs’ Retained Experts Should Be Prevented from Offering General** 23 **Causation Opinions Against Meta Because None Employs a Reliable Methodology**

24 **1. Dr. Hale [AG-only]**

25 **a) Dr. Hale Conceded She Has No Relevant Opinions About Facebook or** 26 **Instagram.**

27 Dr. Hale conceded she does not know whether Facebook or Instagram cause harm to adolescents.
 28 Mot. Ex. 93 (Hale MDL Dep.) (ECF No. 2298-96) 107:14–24 (“I am not prepared to say one way or the
 other”). Dr. Hale also conceded she cannot determine whether Facebook or Instagram contribute to harm

1 from “social media” broadly. *Id.* 108:19-109:6 (“the science is not at that level”). And confronted with
 2 evidence from *her own sources* showing Facebook and Instagram are a vanishingly small percentage of
 3 adolescent screen time (5.9% and 0.1%, respectively), Dr. Hale was not comfortable saying that Facebook
 4 and Instagram drive harm from screen time. *Id.* 362:13–363:5, 363:22–364:12.

5 Plaintiffs argue that none of this matters—that Dr. Hale should be permitted to mislead the jury by
 6 telling them that some abstract notion of “social media” causes harm even though she readily admits that
 7 she cannot say the same for the only two defendants in this case. This Court should firmly reject that
 8 proposition. Expert testimony is only admissible if relevant and helpful. Fed. R. Evid. 702(a); *United*
 9 *States v. 87.98 Acres of Land More or Less in the Cnty. of Merced*, 530 F.3d 899, 904 (9th Cir. 2008).
 10 Generalized opinions with no reliable scientific connection to Facebook or Instagram are neither and must
 11 be excluded. Plaintiffs’ only response is the bare attorney argument—unsupported by any citation to Dr.
 12 Hale’s report or testimony—that her general “social media” opinions “encompass and apply to Facebook
 13 and Instagram.” Opp. 78. But in so arguing, Plaintiffs ask this Court to adopt a view of Dr. Hale’s report
 14 that *Dr. Hale rejected*, testifying that “the science is not at th[e] level” necessary to disaggregate or
 15 determine the impact, if any, that Facebook and Instagram have on adolescent sleep health. Mot. Ex. 93
 16 (Hale MDL Dep.) (ECF No. 2298-96) 108:19-109:6. That is clearly improper. *See, e.g., In re Incretin*,
 17 524 F. Supp. 3d at 1037 n.13 (“Plaintiffs’ counsel’s own analysis ... cannot substitute for reliable expert
 18 opinion.”); *Great-W. Life & Annuity Ins. Co. v. Am. Econ. Ins. Co.*, 2013 WL 5954470, at *3 (D. Nev.
 19 Nov. 6, 2013) (rejecting “continued attempt to recast what is clearly detrimental testimony”); *In re Rezulin*
 20 *Prod. Liab. Litig.*, 369 F. Supp. 2d 398, 407 (S.D.N.Y. 2005) (“None of these elaborations by counsel is
 21 relevant. The subject of this motion is the proposed testimony of experts, not the theories of the lawyers.”).

22 In a last-ditch attempt to salvage Dr. Hale’s testimony, Plaintiffs argue that the vague social media
 23 “features” discussed in her report—none of which is specific to Facebook or Instagram—are nonetheless
 24 “identifiable as present in Facebook and Instagram.” Opp. 79. That is meaningless. Dr. Hale’s deposition
 25 testimony makes clear that she does not know anything meaningful about social media features—let alone
 26 features of Facebook or Instagram—and that she certainly cannot support *expert* opinions on those topics.
 27 *See, e.g.,* Mot. Ex. 93 (Hale MDL Dep.) (ECF No. 2298-96) 115:24-116:6 (no “technical expertise in how
 28 any particular feature of a social media platform work[s]”); 116:13-17 (does not “know how social media

1 algorithms work”); 117:24-118:7 (does not “know how any of Meta’s design features work”). When
 2 asked whether she was “offering any expert opinions in this case regarding the Meta Platform’s design
 3 features,” Dr. Hale replied unequivocally: “I think that is outside the scope of my report.” *Id.* 118:9-13.
 4 Plaintiffs cannot recast Dr. Hale’s opinions when “[t]here is simply no support in [her] report or deposition
 5 for this characterization.” *Creative Dimensions in Mgmt., Inc. v. Thomas Grp., Inc.*, 1999 WL 225890, at
 6 *2 (E.D. Pa. Apr. 16, 1999). Nor can they use bare attorney argument to “fill in the gaps” of Dr. Hale’s
 7 actual expert knowledge. *In re Hum. Tissue Prods. Liab. Litig.*, 582 F. Supp. 2d 644, 667 (D.N.J. 2008).

8 Because Dr. Hale cannot offer any opinions specific to Facebook or Instagram, this Court should
 9 exclude her Opinions 2 and 3 as irrelevant and unhelpful to the trier of fact.

10 **b) Dr. Hale Employed No Methodology to Reach Her Opinions.**

11 Dr. Hale conceded she “didn’t use a methodology” to reach her opinion that general “screen time”
 12 studies are attributable to social media. Mot. Ex. 93 (Hale MDL Dep.) (ECF No. 2298-96) 352:2–8. That
 13 ends the Court’s inquiry—when an expert admits that they did not use a methodology, let alone a reliable
 14 one, to reach an opinion, it must be excluded. *See Rusoff v. Happy Grp., Inc.*, 2024 WL 5339463, at *5–
 15 6 (N.D. Cal. Sept. 27, 2024) (excluding expert’s opinions because he “testified that there was no
 16 methodology” and plaintiffs failed to show that the expert’s opinions were sufficiently reliable); *Surgical*
 17 *Instrument Serv. Co., Inc. v. Intuitive Surgical, Inc.*, 2024 WL 1975456, at *9 (N.D. Cal. Mar. 31, 2024)
 18 (excluding expert’s opinions about cause of product failure because expert “articulate[d] no methodology
 19 he applied to reach a conclusion on the cause of failure for the small subset of instruments he examined”).

20 Plaintiffs rely on Dr. Hale’s purported use of a “consensus method.” But here, that amounts to
 21 reliance on two consensus statements—neither limited to social media—on the impact of screens and
 22 smartphones on sleep. Apparently conceding that the studies Dr. Hale relied on do not show causation,
 23 Plaintiffs argue that they are still “useful to answering the question.” Opp. 76. They are not. The only
 24 consensus panel that made any findings regarding social media use concluded that “the extent to which
 25 [heavy daily use of smartphones and social media] causes sleep deprivation *remains unclear*.” Mot. Ex.
 26 95 (Capraro et al., *A consensus statement on potential negative impacts of smartphone and social media*
 27 *use on adolescent mental health*, PsyArXiv preprint, May 16, 2025) (ECF No. 2298-98) at 14 (emphasis
 28 added). Because Dr. Hale did not employ any methodology, the only thing connecting that vague,

1 inconclusive statement to an opinion that *may* be relevant to this case is her say-so. But courts are not
 2 required “to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.”
 3 *Carnegie Mellon Univ. v. Hoffmann-LaRoche, Inc.*, 55 F. Supp. 2d 1024, 1040 (N.D. Cal. 1999) (quoting
 4 *Joiner*, 522 U.S. at 146); *see Engilis*, 151 F.4th at 1048 (same). Dr. Hale’s guesswork should be excluded.

5 **c) Dr. Hale’s Opinions Impermissibly Rely on Third-Party Content and**
 6 **Protected Publishing Activity**

7 Dr. Hale’s opinion that certain platform features impair sleep must be excluded based on this
 8 Court’s prior holding that those features are protected content and/or publishing activities. Plaintiffs
 9 cannot handwave away this Court’s clear ruling that liability must be based on “the specific conduct
 10 through which the defendants allegedly violated their duties,” PI Order 829, and not on the protected
 11 publishing activity or the effects of third-party content. Plaintiffs concede Dr. Hale made no effort to
 12 disentangle the effects of Meta platforms’ features from the content on it because she cannot do so, noting
 13 that it is “difficult to design a study that disaggregates the effect of content and features.” Opp. 80. This
 14 is an admission that Dr. Hale cannot reliably present an opinion that is not based on what Section 230
 15 prohibits. Plaintiffs also argue that Dr. Hale’s opinions center on the “causal effect that platform features
 16 have on adolescent sleep,” Opp. 80, while entirely sidestepping which features on which Dr. Hale opines.
 17 That is because what Dr. Hale identifies as “[d]esign features” of social media—“notifications, infinite
 18 scroll, autoplay, ephemeral content, and tailored algorithms,” Mot. Ex. 92 (Hale Rebuttal Rep.) (ECF No.
 19 2298-95) ¶ 34—are *precisely* what this Court found to be, as a matter of law, protected content and/or
 20 publishing activity. PI Order 830–31. Plaintiffs do not respond, nor could they respond, to the fact that
 21 reliance on Dr. Hale’s opinions would likely lead to liability directly contravening this Court’s holdings.

22 **2. Dr. Prinstein [AG-only]¹⁷**

23 **a) Dr. Prinstein’s Causation Opinions Are Methodologically Unreliable.**

24 **(1) Dr. Prinstein Cannot Reliably Identify the “[E]merging [D]ata”**
 25 **He Says Show Causation.**

26 Dr. Prinstein bases his opinion that social media causes mental health harms on undisclosed,
 27

28 ¹⁷ Meta’s opening Motion against Dr. Prinstein is filed at ECF No. 2304, pursuant to a so-ordered stipulation to file that motion separately due to the timing of Dr. Prinstein’s deposition, *see* ECF No. 2274.

1 unspecified “emerging data” that he largely cannot identify. Plaintiffs state that Dr. Prinstein cited
 2 “hundreds of studies” to support the opinions he offers in this case. Opp. 103. But critically, the hundreds
 3 of studies Dr. Prinstein cites throughout his report—and that Plaintiffs cite—are not what Dr. Prinstein is
 4 claiming form the foundation of his causation opinions. When asked about his expert report, Dr. Prinstein
 5 testified “I don’t speak about cause in this report.” Opp. Ex. 3 (Prinstein Dep.) (ECF No. 2405-6) 104:24–
 6 25. The citations from the report are immaterial. Dr. Prinstein now finds causation in light of “emerging
 7 data”—from *after* he submitted his report: “the data that has come out since I submitted this report in May
 8 has now demonstrated a link between social media and mental health harms based on randomized clinical
 9 trials.” *Id.* 122:4–7. But without identifying that data, he has no foundation for his opinions.

10 According to Dr. Prinstein, “emerging data from randomized clinical trials allows us to now make
 11 more causal statements about the relationship between social media exposure and youth mental health.”
 12 *Id.* 175:8–11. When asked to describe that “emerging data,” Dr. Prinstein pointed to a 2025 meta-analysis
 13 that post-dates his report and an APA advisory. *See* Opp. Ex. 69 (Burnell et al., “The Effects of Social
 14 Media Restriction” (2025)) (ECF No. 2405-72) [hereinafter “Burnell”] (the meta-analysis); Opp. Ex. 3
 15 (Prinstein Dep.) (ECF No. 2405-6) 175:13–20, 179:2–3; Ex. 4, APA, Health Advisory on Social Media
 16 Use in Adolescents (“APA Advisory”). But when asked about the APA Advisory, Dr. Prinstein clarified
 17 that “the emerging data that allows us to talk about cause in a scientific audience would come from the
 18 randomized clinical trials which were only just recently summarized.” Opp. Ex. 3 (Prinstein Dep.) (ECF
 19 No. 2405-6) 179:21–24. And the only such randomized control trials he points to are those included
 20 within the Burnell meta-analysis. *Id.* 175:13–20. Plaintiffs do not say how that meta-analysis—which
 21 included only studies consisting entirely of adults, *see* Opp. Ex. 69 (Burnell) (ECF No. 2405-72) at 5—
 22 could establish causation relevant to adolescents. Indeed, the authors of the meta-analysis explicitly note
 23 “it may not be appropriate to draw causal conclusions on how social media affects adolescent subjective
 24 well-being when these studies remain absent.” *Id.* at 10. Dr. Prinstein’s opinions thus amount to
 25 “unsupported speculation.” *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 590 (1993); *see also*
 26 *Perry v. Novartis Pharms. Corp.*, 564 F. Supp. 2d 452, 467–68 (E.D. Pa. 2008) (“In cases where no
 27 adequate study shows the link between a substance and a disease, expert testimony will generally be
 28 inadmissible, even if there are hints in the data that some link might exist.”).

(2) **Dr. Prinstein Applies Different Standards in His Non-Retained Expert Work Regarding Causation.**

Dr. Prinstein’s opinions should be excluded because he has not applied the same scientific rigor he employs outside of court in forming his litigation opinions. In Opposition, Plaintiffs argue statements in Dr. Prinstein’s report about the value of randomized control trials do “not mean that the available research does not support causation.” Opp. 104–05. But Plaintiffs ignore that Dr. Prinstein’s testimony about causation shows he is applying a different standard in this case. Dr. Prinstein acknowledges he did not “speak about cause” in his report, Opp. Ex. 3 (Prinstein Dep.) (ECF No. 2405-6) 104:24–25, and says, with respect to his published research, “you would probably not find the word ‘cause’ in that context.” *Id.* 112: 22-23. But in his deposition, Dr. Prinstein testified: “we absolutely know for certain more than not that there is a direct and clear and, yes, causal relationship between what adolescents are engaging with on the features and functions on social media and their own mental health problems down the line.” *Id.* 119:5–10.

Dr. Prinstein reaches different conclusions in and out of court because he applies different standards: according to Dr. Prinstein, “[i]n academic journals, when we talk about causation, we are applying a standard of mechanistic-level connection that is—you know, it is, *in this case, unrealistic and impossible*” and “an unnecessary standard.” *Id.* 106:9–13 (emphasis added). Dr. Prinstein testified that in scientific settings, “*cause means something different*, and it’s a different kind of set of criteria that we use.” *Id.* 115:12–13. Dr. Prinstein is applying a lower standard in his litigation opinions than he would in his scientific work, contravening Rule 702. *Daubert*, 509 U.S. at 593.

(3) **Dr. Prinstein Relies on Studies That Address Social Media in General Rather Than Defendants’ Platforms Specifically.**

Plaintiffs claim Dr. Prinstein’s methodology—which relies on studies that fail to examine or differentiate between social media platforms—should be examined through cross-examination, not excluded. *See* Opp. 92–93. But for expert testimony to be relevant and admissible, it must establish that “each defendant” was responsible for “caus[ing] [the plaintiff] to suffer injury.” *Sanderson*, 950 F. Supp. at 987–88. Dr. Prinstein’s methodology treats social media as an undifferentiated mass responsible for a host of alleged mental health harms, and Plaintiffs do not pretend otherwise. *See* Opp. 92–93. For example, Dr. Prinstein admitted that his research could not support claims about harm caused by Meta’s

algorithm compared to algorithms used by other social media companies. *See* Opp. Ex. 3 (Prinstein Dep.) (ECF No. 2405-6) 76:7–10. (Moreover, as noted *infra* § I.A, Dr. Prinstein’s opinions about Meta’s algorithm should be excluded because this Court has already ruled that Section 230 protects it.) The Court should reject Plaintiffs’ attempt to transmute a methodological flaw into a factual disagreement: Dr. Prinstein could not testify as to the alleged harm caused by Meta as distinct from potential harms from other platforms because his methodology is inherently incapable of doing so. That inability is not a “factual[] . . . error” or a mere question of “the weight of evidence.” Opp. 92–93. It is a methodological gap that makes Dr. Prinstein’s opinions about the impact of Meta’s platforms inadmissible given the lack of reliable methodology and the analytical gap between the research he relies on and his Meta-specific opinions. *See* Fed. R. Evid. 702(b)–(c); *Joiner*, 522 U.S. at 146.

b) Dr. Prinstein’s Opinions Rely on Content and Protected Features.

Plaintiffs attempt to excuse Dr. Prinstein from the scope of this Court’s Section 230 holdings, and the Court should reject their attempt. Plaintiffs stress that their “experts are ‘not required to opine that content cannot also cause harm.’” Opp. 89 (quoting *Soc. Media Cases*, 2025 WL 2807828, at *7). But that ignores the fundamental flaw in Dr. Prinstein’s methodology: it does not offer a way to attribute harm to any particular features at all—whether or not the Court has ruled are not protected by Section 230. *See* Mem. 1–3. Although Dr. Prinstein does offer opinions on unprotected features, *see* Opp. Ex. 12 (Prinstein Rep.) (ECF No. 2405-15) ¶¶ 43, 45, 48; *see also* Opp. 89, his analysis fails to attribute harm to those particular features rather than protected features such as Like counts and algorithms, *see, e.g.*, Opp. Ex. 12 (Prinstein Rep.) (ECF No. 2405-15) ¶¶ 1, 4–5, 30–31, 60, 65, 69; *see also* Mem. 2–3.¹⁸ Because Dr. Prinstein has no reliable methodology for opining that any *particular feature* was the cause of any purported harm—let alone that that harm was not completely dependent upon the content, rather than the design of the feature—his testimony provides the State AGs with no reliable basis to say that any particular statements by Meta about its features was deceptive.

¹⁸ Plaintiffs suggest that Dr. Prinstein relies on research “designed to control for content in examining the impact of certain features and functions,” Opp. 89–90, but those studies—by Dr. Prinstein’s own admission—describe harm attributable to features protected by Section 230. Dr. Prinstein provides no analysis distinguishing between harms allegedly attributable to protected versus unprotected features.

1 **3. Dr. Zicherman [AG-only]**

2 **a) Plaintiffs Do Not Dispute That Dr. Zicherman’s Literature Review Is**
 3 **One-Sided and Not Itself a Reliable Basis for His Opinions.**

4 Dr. Zicherman’s selective literature review, using sources identified because they confirm Dr.
 5 Zicherman’s prior views, is not a reliable basis for his opinions. *See, e.g.*, Mot. Ex. 98 (Zicherman Dep.)
 6 (ECF No. 2298-101) 187:16–188:9. Tellingly, Plaintiffs do not contest that Dr. Zicherman’s literature
 7 review—the only testable potential foundation for his opinions—was not even-handed. *See* Opp. 85–86
 8 (contemplating Dr. Zicherman’s “targeted citations to literature”). Instead, they claim the cherry-picked
 9 literature review is “immaterial” because it merely substantiates Dr. Zicherman’s clinical experience. *See*
 10 *id.* But a methodologically flawed, “results-oriented” literature review cannot itself substantiate or lend
 11 methodological rigor to anything. *In re Roundup Prods. Liab. Litig.*, 737 F. Supp. 3d 893, 897 (N.D. Cal.
 12 2024). It certainly is no validation for Dr. Zicherman’s clinical experience, which is an untestable “black
 13 box.” *See* Mot. 95–97; *see also infra*, § II.D.3.(d). Dr. Zicherman’s opinions are speculative and
 14 unsupported by any reliable basis or methodology.

15 **b) Dr. Zicherman’s Has No Reliable Basis for His Opinion That**
 16 **Instagram Is a “Primary Contributor” to Mental Health Harms.**

17 Plaintiffs deem Dr. Zicherman’s failure to identify a reliable methodology for his attribution of
 18 harm to Instagram a non-issue for the State AGs’ claims. Plaintiffs are wrong. In so arguing, the State
 19 AGs seek to have it both ways. They disclosed Dr. Zicherman to offer causation opinions, including that
 20 “Instagram is a primary contributor to teen and youth mental health concerns.” Mot. Ex. 96 (Zicherman
 21 Trial Rep.) (ECF No. 2298-99) 2. Yet, when Meta contested the admissibility of Dr. Zicherman’s
 22 causation opinions, the State AGs did an about-face, arguing that Meta’s motion should be denied because
 23 causation—the very subject on which they disclosed him as an expert—is not a component of the
 24 deception and unfairness claims they assert. Opp. 19–20. But their argument is self-defeating: either Dr.
 25 Zicherman’s opinions on causation are relevant to the claims at issue but inadmissible (Meta’s position),
 26 or they are irrelevant (the State AGs’ position) and so equally inadmissible. *See* Fed. R. Evid. 401.

27 And, the State AGs *do* have to prove Instagram causes harm. To prove their claims, the State AGs
 28 must prove that Instagram is harmful in a way that contradicts Meta’s public statements. *See*, 23-cv-5448,
 ECF 73-2, State AGs Compl., at 143–44 (alleging, *e.g.*, that Meta “misrepresented . . . that its Social

Media Platforms are less addictive and/or likely to result in psychological or physical harm for young users than its Social Media Platforms are in reality” and “utilized Social Media Platform features that unfairly and/or unconscionably harm young users”). Dr. Zicherman’s observations that “the majority of [his] patients that come in with a social media addiction concern” use Instagram and “identify Instagram as their platform of choice,” Mot. Ex. 98 (Zicherman Dep.) (ECF No. 2298-101) 140:8-11, do not bridge the large gap between use and causation. His opinions on this point are inadmissible. *See* Mot. 91–98.

c) Dr. Zicherman’s Opinions Rely on Protected Platform Features.

For the reasons stated above, *see supra*, § II.A.1, Dr. Zicherman’s failure to provide any reliable basis to support that non-protected features are capable of causing harm renders his opinions inadmissible. Judge Kuhl’s conclusion that, in addition to opining on features, experts can also opine that content causes harm, was issued in a different case, involving different findings on the pleadings regarding Section 230, *see* Section 230 Mot. 14–15, and in any event does not erode the requirement that experts make a distinction between the harm attributable to protected content and features versus unprotected features. *See* Opp. 81 (quoting *Soc. Media Cases*, 2025 WL 2807828, at *7). Dr. Zicherman’s failure to make this distinction is particularly problematic given the untestable nature of the “clinical experience” underlying his opinions, as set forth, *infra*, in § II.D.3.(d), rendering it unknowable how much of his analysis is based on protected platform features and content.

d) Plaintiffs Have Not Shown That Dr. Zicherman’s Narrow, Untestable Clinical Experience Provides a Reliable Basis for His Opinions.

Dr. Zicherman’s opinions are based almost entirely on experience with a population he admits is not representative.¹⁹ Dr. Zicherman admitted his “distinct” viewpoint is based on treating those “who meet the very high threshold to present to a psychiatric treatment clinic.” Mot. Ex. 97 (Zicherman Reb. Rep.) (ECF No. 2298-100) ¶ 13. His experience thus cannot support his broad general causation opinions.

Additionally, Dr. Zicherman’s clinical experience does not provide a foundation for his opinions

¹⁹ The State AGs also contend that Dr. Zicherman does not offer population-level opinions. Opp. 83. Aside from the fact that the State AGs then cite one of the population-level opinions Dr. Zicherman provides, *see id.* (citing Mot. Ex. 98 (Zicherman Dep.) (ECF No. 2298-101) 263:2–264:15) (opining that social media addiction is increasing among US teenagers)), this position is not tenable for the State AGs, who, as identified above, must prove causation at a population-wide level.

because the opinions rest on faulty memory and undisclosed clinical notes, rendering it a “black box.” *Open Text S.A. v. Box, Inc.*, 2015 WL 349197, at *6 (N.D. Cal. Jan. 23, 2015); Mot. 95–97. Plaintiffs claim he was not required to disclose notes under Rule 26(a)(2)(B)(ii) (requiring disclosure of “facts or data considered by the witness in forming” expert opinion). But “‘considered’ is broadly interpreted, and the party sponsoring the witness must disclose the materials considered by, presented to, or relied upon by a testifying expert in forming his or her opinions.” *Elasticsearch Inc. v. Floreagunn GMBH*, 2022 WL 126075, at *3 (N.D. Cal. Jan. 13, 2022) (cleaned up). The case Plaintiffs cite, *In re Benicar (Olmesartan) Products Liability Litigation*, undercuts their argument. *Benicar* found disclosure of medical records supporting a causation opinion would be required even if the “experts’ record review was done years ago and before the experts were retained for trial.” 319 F.R.D. 139, 141 n.4 (D.N.J. 2017); *id.* at 142 (“[t]here is no [Rule 26] exception for paid trial experts who happen to be treating physicians”). Because Dr. Zicherman’s opinions are based on interactions with clinical patients, failing to disclose redacted records of those interactions improperly forecloses inquiry into his methodology.

e) **Dr. Zicherman Is Unqualified to Opine on Dopamine Activity in The Brain and Its Connection to Social Media Addiction.**

Dr. Zicherman’s opinions should also be excluded because he is unqualified to opine on dopamine activity and any relation to social media. *See* Mot. 97–98. Neither Dr. Zicherman’s general credentials nor the recharacterization of his level of understanding to “that of a medical doctor” alters his evident lack of the knowledge about dopamine release, the theory undergirding his causation opinions. *See, e.g.*, Mot. Ex. 98 (Zicherman Dep.) (ECF No. 2298-101) 116:24–117:5, 346:2-21. Plaintiffs’ argument that Dr. Zicherman’s opinions are not predicated on the specifics of dopamine release theory fails, as the conclusions he draws from his clinical population *depend* on that theory. For example, Dr. Zicherman’s inability to opine on how much dopamine is released when using social media, or whether the amount released is abnormal or concerning, is fatal to his ability to opine that social media—particularly Instagram—causes dopamine to be released in a way that contributes to addiction. At the very least, Dr. Zicherman should not be permitted to testify on dopamine activity and any relationship to social media.

III. CONCLUSION

The Court should exclude the testimony of Plaintiffs’ experts.

1 DATED: December 5, 2025

Respectfully submitted,

2
3 By: /s/ Ashley M. Simonsen

4
5 Ashley M. Simonsen (Bar No. 275203)
6 **COVINGTON & BURLING LLP**
7 1999 Avenue of the Stars
8 Los Angeles, California 90067
9 Telephone: (424) 332-4800
10 Facsimile: (424) 332-4749
11 Email: asimonsen@cov.com

12 Phyllis A. Jones (*pro hac vice*)
13 Paul W. Schmidt (*pro hac vice*)
14 Christian J. Pistilli (*pro hac vice*)
15 **COVINGTON & BURLING LLP**
16 One City Center
17 850 Tenth Street, NW
18 Washington, DC 20001-4956
19 Telephone: (202) 662-6000
20 Facsimile: (202) 662-6291
21 Email: pajones@cov.com
22 Email: pschmidt@cov.com
23 Email: cpistilli@cov.com

24 *Attorneys for Defendants Meta Platforms, Inc.*
25 *f/k/a Facebook, Inc.; Facebook Holdings,*
26 *LLC; Facebook Operations, LLC; Meta*
27 *Payments Inc. f/k/a Facebook Payments Inc.;*
28 *Meta Platforms Technologies, LLC f/k/a*
Facebook Technologies, LLC; Instagram,
LLC; and Siculus LLC f/k/a Siculus, Inc.

MUNGER, TOLLES & OLSON LLP

By: /s/ Jonathan H. Blavin
Jonathan H. Blavin

JONATHAN H. BLAVIN, SBN
230269
jonathan.blavin@mto.com
MUNGER, TOLLES & OLSON LLP
560 Mission Street, 27th Floor
San Francisco, CA 94105
Tel.: (415) 512-4000

ROSE L. EHLER, SBN 296523
Rose.Ehler@mto.com
MUNGER, TOLLES & OLSON LLP
350 South Grand Avenue, 50th Floor
Los Angeles, CA 90071
Tel.: (213) 683-9100

Attorneys for Defendant Snap Inc.

KIRKLAND & ELLIS LLP

By: /s/ Allison Brown
Allison Brown

ALLISON BROWN, *pro hac vice*
KIRKLAND & ELLIS LLP
601 Lexington Avenue
New York, NY 10022
Telephone: (212) 446-4757
Email: Alli.Brown@kirkland.com

JESSICA DAVIDSON, *pro hac vice*
KIRKLAND & ELLIS LLP
601 Lexington Avenue
New York, NY 10022
Telephone: (212) 446-4723
Email:
Jessica.davidson@kirkland.com

Attorneys for Defendant Snap Inc.

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

By: /s/ Brian M. Willen
Brian M. Willen

Brian M. Willen (pro hac vice)
Wilson Sonsini Goodrich & Rosati PC
1301 Avenue of the Americas, 40th Floor
New York, New York 10019
Telephone: (212) 999-5800
Facsimile: (212) 999-5899
bwillen@wsgr.com

Lauren Gallo White (SBN 309075)
Samantha A. Machock (SBN 298852)
Wilson Sonsini Goodrich & Rosati PC
One Market Plaza, Spear Tower, Suite 3300
San Francisco, CA 94105
Telephone: (415) 947-2000
Facsimile: (947)-2099
lwhite@wsgr.com
smachock@wsgr.com

Christopher Chiou (SBN 233587)
Matthew K. Donohue (SBN 302144)
Wilson Sonsini Goodrich & Rosati PC
953 East Third Street, Suite 100
Los Angeles, CA 90013
Telephone: (323) 210-2900
Facsimile: (866) 974-7329
cchio@wsgr.com
mdonohue@wsgr.com

*Attorneys for Defendants YouTube, LLC and
Google LLC*

MORGAN LEWIS & BOCKIUS LLP

By: /s/ Brian M. Ercole

Brian Ercole (pro hac vice)
600 Brickell Avenue, Suite 1600
Miami, FL 33131-3075
Telephone: (305) 415-3416
brian.ercole@morganlewis.com

Yardena R. Zwang-Weissman (SBN
247111)
300 South Grand Avenue, 22nd Floor
Los Angeles, CA 90071-3132
Telephone: (213) 612-7238
yardena.zwang-
weissman@morganlewis.com

Stephanie Schuster (pro hac vice)
1111 Pennsylvania Avenue NW
Washington, DC 20004-2541
Telephone: (202) 373-6595
stephanie.schuster@morganlewis.com

*Attorneys for Defendants YouTube, LLC
and
Google LLC*

WILLIAMS & CONNOLLY LLP

By: /s/ Joseph G. Petrosinelli

Joseph G. Petrosinelli

JOSEPH G. PETROSINELLI (pro hac vice)
ASHLEY W. HARDIN (pro hac vice)
680 Maine Avenue, SW
Washington, DC 20024
Tel.: 202-434-5000
jpetrosinelli@wc.com
ahardin@wc.com

*Attorneys for Defendants YouTube, LLC
and Google LLC*

KING & SPALDING LLP

By: /s/ Geoffrey M. Drake

GEOFFREY M. DRAKE, *pro hac vice*
gdrake@kslaw.com

TACARA D. HARRIS, *pro hac vice*
tharris@kslaw.com

KING & SPALDING LLP
1180 Peachtree Street, NE, Suite 1600
Atlanta, GA 30309

Telephone: (404) 572-4600

Facsimile: (404) 572-5100

DAVID P. MATTERN, *pro hac vice*
dmattern@kslaw.com

KING & SPALDING LLP
1700 Pennsylvania Avenue, NW
Suite 900

Washington, D.C. 20006

Telephone: (202) 737-0500

Facsimile: (202) 626-3737

BAILEY J. LANGNER (SBN 307753)
blangner@kslaw.com

KING & SPALDING LLP
50 California Street, Suite 3300
San Francisco, CA 94111

Telephone: (415) 318-1200

Facsimile: (415) 318-1300

Attorneys for Defendants
TikTok Inc., ByteDance Inc., TikTok Ltd.,
ByteDance Ltd., and TikTok LLC

FILER'S ATTESTATION

I, Ashley M. Simonsen, hereby attest, pursuant to N.D. Cal. Civil L.R. 5-1, that the concurrence to the filing of this document has been obtained from each signatory hereto.

DATED: December 5, 2025

By: /s/ Ashley M. Simonsen